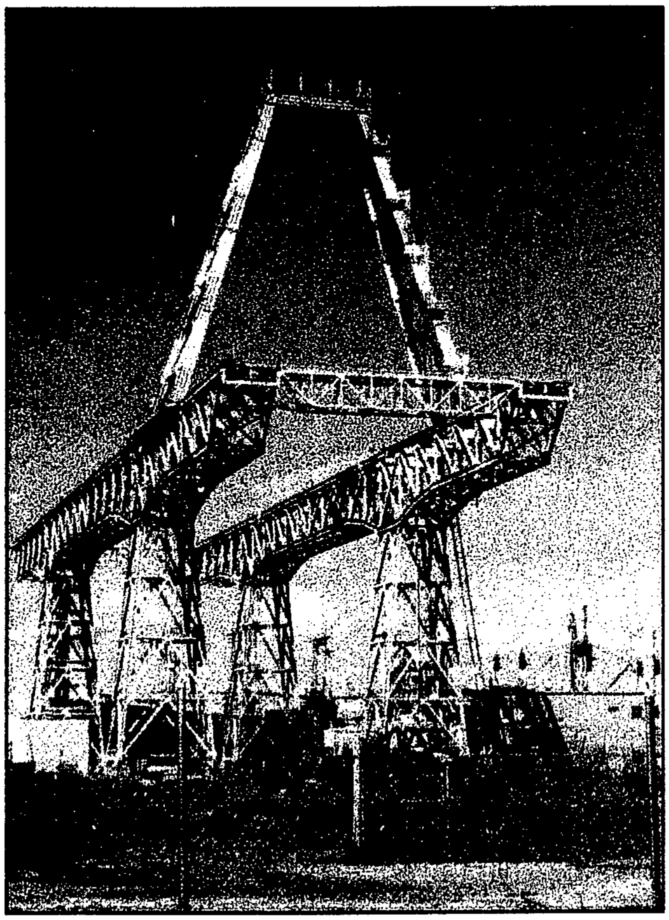
Final
Environmental Impact Statement For the Disposal and Reuse of Hunters Point Shipyard

Volume 1: Main Text and Appendices



March 2000

Southwest Division
Naval Facilities Engineering Command

DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited

20000307 080

DEPARTMENT OF THE NAVY
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132-5190

NOTICE OF AVAILABILITY
OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR DISPOSAL AND REUSE OF HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

Pursuant to the National Environmental Policy Act (NEPA) as implemented by the Council on Environmental Quality Regulations (40 CFR parts 1500-1508), notice is hereby given that the UNITED STATES DEPARTMENT OF THE NAVY (Navy), has prepared and filed with the U.S. Environmental Protection Agency a Final Environmental Impact Statement (EIS) for the disposal of Hunters Point Shipyard (HPS), located in San Francisco, California, and the subsequent reuse of those properties. A Notice of Availability (NOA) for the Final EIS was published in the *Federal Register* on March 3, 2000.

The Federal action evaluated in this Final EIS is the disposal of HPS property, approximately 493 acres of dry land and 443 acres of submerged land, for subsequent reuse of the property by the City and County of San Francisco. HPS was selected for closure pursuant to the Base Realignment and Closure Act of 1988, Public Law 100-526, and the Defense Base Closure and Realignment Act of 1990, 10 USCA § 2687 note at 582-606. The 1991 Defense Base Closure and Realignment Commission recommended the closure of HPS. This recommendation was approved by President Bush and accepted by the One Hundred Second Congress in 1991. HPS is proposed for disposal pursuant to the Military Construction Authorization Act, Public Law 103-160 USC § 2834.

The reuse alternatives analyzed in the Final EIS are the City's Proposed Reuse Plan and Reduced Development Alternative. The Proposed Reuse Plan was developed through an extensive public process and provides an economically viable and balanced plan to reuse excess Federal property. The Proposed Reuse Plan proposes a mix of land uses by year 2025, which includes 775,000 square feet (sf) on 96 acres for industrial use; 360,000 sf on 85 acres for maritime industrial use; 312,000 sf on 70 acres for research and development use; 555,600 sf on 25 acres for cultural/educational uses; 1,150,000 sf on 55 acres for mixed use, including 500 live/work units; 38 acres for residential uses (1,300 units); and 124 acres for open space. The Reduced Development Alternative proposes the following development by year 2025: 377,000 sf on 96 acres for industrial use; 173,000 sf on 85 acres for maritime industrial use; 100,000 sf on 70 acres for research and development use; 345,000 sf on 25 acres for cultural/educational uses; 100,000 sf on 55 acres for mixed use, including 100 live/work units; 38 acres for residential uses (300 units); and 124 acres for open space.

The Final EIS analyzes the proposed Navy disposal, the City's Proposed Reuse Plan, the Reduced Development Alternative, and No Action, which would result in Navy retaining the property. The analysis is presented at a general level of detail, because the actions to be taken are the disposal of HPS and the implementation of a community reuse alternative (for which land uses are designated at a general level of detail). Reuse of HPS under either reuse alternative would result in significant unmitigable impacts from increased traffic at the Third Street/Cesar Chavez Street intersection. Significant, but mitigable impacts, from both alternatives would affect noise, geology and soils, water resources, and biological resources. The Proposed Reuse Plan would also have the following significant, but mitigable, traffic/transportation impacts: increased traffic at Third Street/Evans Avenue intersection; increased traffic at Evans Avenue/Cesar Chavez intersection; increased demand for public transportation exceeding planned or anticipated capacity; and increased demand for pedestrian and bicycle facilities exceeding planned or anticipated capacities.

The Final EIS incorporates and responds to public comments on the Revised Draft EIS/Environmental Impact Report. Following the close of the public comment period, the City and County of San Francisco elected to proceed separately with the conclusion of their environmental review process in order to meet time limits on the reuse planning process imposed by state law. These time limits would have expired if the process proceeded as a joint Federal/state effort. As a result of the termination of the joint process, Navy is publishing a separate Final EIS.

The Final EIS has been distributed to various Federal, state, and local agencies, local groups, elected officers, special interest groups, and individuals. Copies of the Final EIS are also available for review at the following locations: **San Francisco Main Public Library**, Civic Center, Larkin & Grove Streets; **San Francisco Public Library, Anna E. Waden Branch**, 5075 Third Street. Written comments are to be provided to Ms. Melanie Ault, BRAC Operations, SWNAVFACENGCOM, 1230 Columbia Street, Suite 1100, San Diego, California 92101. All written comments must be postmarked no later than **April 4, 2000**, to become part of the official record. Questions regarding the Final EIS should be directed to Ms. Ault at (619) 532-0954; fax (619) 532-0940.

FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE DISPOSAL AND REUSE OF HUNTERS POINT SHIPYARD SAN FRANCISCO, CALIFORNIA

Lead Agency:	U.S. Department of the Navy
Title for Proposed Action:	Disposal and Reuse of Hunters Point Shipyard
Affected Jurisdictions:	City and County of San Francisco, California
Designation:	Environmental Impact Statement
State Clearinghouse #:	SCH# 95072085

ABSTRACT

Hunters Point Shipyard was closed pursuant to the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as implemented by the 1993 base closure process. Under § 2824 of Public Law 101-510, as amended, the Navy has authority to convey the property to the City of San Francisco (or a reuse organization approved by the City) for such consideration and under such terms as the Secretary of the Navy considers appropriate. This authority can be exercised exclusive of the specific Federal property disposal laws and regulations otherwise required for Navy disposals under the Base Realignment and Closure Act (BRAC) of 1988.

This Final Environmental Impact Statement (EIS) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, 42 United States Code Annotated §§ 4321-4370d (West, 1994 and Supp. 1998), and analyzes the potentially significant environmental impacts of Navy disposal and community reuse of the former Hunters Point Shipyard. The Federal action evaluated in this EIS is the Navy disposal of Federal property and structures out of Federal ownership.

The Final EIS evaluates the environmental effects of Navy disposal and two community reuse alternatives: the Proposed Reuse Plan and the Reduced Development Alternative. The No Action Alternative is also evaluated. The EIS presents analyses of potential significant environmental impacts relating to transportation, traffic, and circulation; air quality; noise; land use; visual resources and aesthetics; socioeconomics; hazardous materials and waste; geology and soils; water resources; utilities; public services; cultural resources; and biological resources.

Both reuse alternatives could contribute to one project and one cumulative significant and unavoidable transportation, traffic, and circulation impact, both of which would be reduced, but not eliminated, by proposed measures.

Comments on this document should be sent to:

Southwest Division
BRAC Operations Office
1220 Pacific Highway
San Diego, CA 92132-5190
Attn: Melanie Ault
Phone: (619) 532-0954
Fax: (619) 532-0950

TABLE OF CONTENTS

SECTION | PAGE

ABSTRACT

ABBREVIATIONS AND ACRONYMS xiii

EXECUTIVE SUMMARY ES-1

1. PURPOSE AND NEED 1-1

1.1 Purpose and Need for Action 1-1
1.2 Location and History 1-3
1.3 Document Organization 1-6
1.4 Public Involvement Process 1-7
1.4.1 Scoping Process 1-7
1.4.2 Summary of Scoping Issues 1-7
1.4.3 Public Review Process for the Draft EIS/EIR 1-8
1.4.4 Public Review Process for the *Revised* Draft EIS/EIR 1-9
1.5 Related Studies 1-10
1.6 Community Reuse Planning Process 1-11

2. ALTERNATIVES, INCLUDING THE PROPOSED ACTION 2-1

2.1 Introduction 2-1
2.2 Disposal Alternatives 2-1
2.3 Development of the Community Reuse Alternatives 2-1
2.4 Reuse Alternatives Considered But Eliminated 2-2
2.5 Description of Community Reuse Alternatives 2-4
2.6 No Action Alternative 2-10
2.7 Environmentally Preferable Alternative 2-11
2.8 Comparison of Alternatives 2-11

3. AFFECTED ENVIRONMENT 3-1

3.1 Transportation, Traffic, and Circulation 3-1
3.1.1 Existing Transportation System 3-5
3.1.2 Methodology for Estimating Existing and Future Baseline Traffic Conditions 3-16
3.1.3 Existing Traffic Conditions 3-17
3.1.4 Future Transportation Project 3-21
3.1.5 Future Baseline Conditions 3-23
3.1.6 Plans and Policies 3-25
3.2 Air Quality 3-29
3.2.1 Climate and Meteorology 3-29
3.2.2 Ambient Air Quality Standards 3-30
3.2.3 Toxic Air Contaminants 3-33
3.2.4 Existing Air Quality Conditions 3-34
3.2.5 Existing Emission Sources at Hunters Point Shipyard 3-36
3.2.6 Plans and Policies 3-36
3.3 Noise 3-41
3.3.1 Noise Measurements 3-41
3.3.2 Noise Conditions 3-41
3.3.3 Plans and Policies 3-42

TABLE OF CONTENTS (CONTINUED)

SECTION | PAGE

3.4 Land Use 3-45
3.4.1 HPS Land Use 3-45
3.4.2 Surrounding Land Uses 3-50
3.4.3 Plans and Policies 3-52
3.5 Visual Resources and Aesthetics 3-61
3.5.1 Visual Features at HPS 3-61
3.5.2 Distant Views of HPS 3-69
3.5.3 Plans and Policies 3-74
3.6 Socioeconomics 3-75
3.6.1 Background 3-75
3.6.2 Population 3-76
3.6.3 Housing 3-79
3.6.4 Employment 3-80
3.6.5 Public Schools 3-84
3.7 Hazardous Materials and Waste 3-86
3.7.1 Site Background 3-86
3.7.2 Existing Hazardous Materials Management 3-87
3.7.3 Summary of Contamination and the IRP Process 3-88
3.7.4 Basewide Environmental Compliance Programs 3-99
3.7.5 Regulatory Framework 3-103
3.8 Geology and Soils 3-104
3.8.1 Topography 3-104
3.8.2 Regional and Site Geology and Soils 3-104
3.8.3 Geologic Processes 3-104
3.8.4 Plans and Policies 3-112
3.9 Water Resources 3-114
3.9.1 Surface Water 3-114
3.9.2 Water Infrastructure 3-115
3.9.3 Water Quality 3-116
3.9.4 Groundwater 3-120
3.9.5 Plans and Policies 3-121
3.10 Utilities 3-125
3.10.1 Water Systems 3-125
3.10.2 Storm Water Collection System 3-126
3.10.3 Sanitary Collection System 3-127
3.10.4 Electric and Natural Gas Systems 3-128
3.10.5 Telephone Service 3-129
3.10.6 Solid Waste Disposal 3-129
3.10.7 Plans and Policies 3-129
3.11 Public Services 3-131
3.11.1 Police Services 3-131
3.11.2 Fire Protection and Emergency Medical Services 3-131
3.11.3 Plans and Policies 3-131
3.12 Cultural Resources 3-133
3.12.1 Background 3-133
3.12.2 Cultural Resource Studies 3-135
3.12.3 Prehistoric Resources and Archeological Sites 3-135

TABLE OF CONTENTS (CONTINUED)

SECTION PAGE

3.12.4 Historic Resources and Sites 3-136
3.12.5 Significant Historic Architectural Resources 3-139
3.12.6 Plans and Policies 3-145
3.13 Biological Resources 3-147
3.13.1 Background Data/Information 3-147
3.13.2 Vegetative Communities 3-147
3.13.3 Fish and Wildlife 3-148
3.13.4 Sensitive Species 3-149
3.13.5 Sensitive Habitats 3-152
3.13.6 Plans and Policies 3-152

4. ENVIRONMENTAL CONSEQUENCES 4-1

4.1 Transportation, Traffic, and Circulation 4-3
4.1.1 Navy Disposal 4-7
4.1.2 City and County of San Francisco Reuse Alternatives 4-7
4.1.3 No Action Alternative 4-21
4.2 Air Quality 4-22
4.2.1 Navy Disposal 4-23
4.2.2 City and County of San Francisco Reuse Alternatives 4-23
4.2.3 No Action Alternative 4-32
4.3 Noise 4-33
4.3.1 Navy Disposal 4-33
4.3.2 City and County of San Francisco Reuse Alternatives 4-33
4.3.3 No Action Alternative 4-39
4.4 Land Use 4-40
4.4.1 Navy Disposal 4-40
4.4.2 City and County of San Francisco Reuse Alternatives 4-40
4.4.3 No Action Alternative 4-49
4.5 Visual Resources and Aesthetics 4-50
4.5.1 Navy Disposal 4-50
4.5.2 City and County of San Francisco Reuse Alternatives 4-50
4.5.3 No Action Alternative 4-54
4.6 Socioeconomics 4-55
4.6.1 Navy Disposal 4-55
4.6.2 City and County of San Francisco Reuse Alternatives 4-55
4.6.3 No Action Alternative 4-60
4.7 Hazardous Materials and Waste 4-61
4.7.1 Navy Disposal 4-61
4.7.2 City and County of San Francisco Reuse Alternatives 4-61
4.7.3 No Action Alternative 4-65
4.8 Geology and Soils 4-66
4.8.1 Navy Disposal 4-66
4.8.2 City and County of San Francisco Reuse Alternatives 4-66
4.8.3 No Action Alternative 4-68
4.9 Water Resources 4-69
4.9.1 Navy Disposal 4-69
4.9.2 City and County of San Francisco Reuse Alternatives 4-69

TABLE OF CONTENTS (CONTINUED)

SECTION PAGE

4.9.3 No Action Alternative 4-77
4.10 Utilities 4-78
4.10.1 Navy Disposal 4-78
4.10.2 City and County of San Francisco Reuse Alternatives 4-78
4.10.3 No Action Alternative 4-83
4.11 Public Services 4-84
4.11.1 Navy Disposal 4-84
4.11.2 City and County of San Francisco Reuse Alternatives 4-84
4.11.3 No Action Alternative 4-85
4.12 Cultural Resources 4-86
4.12.1 Navy Disposal 4-87
4.12.2 City and County of San Francisco Reuse Alternatives 4-87
4.12.3 No Action Alternative 4-90
4.13 Biological Resources 4-91
4.13.1 Navy Disposal 4-91
4.13.2 City and County of San Francisco Reuse Alternatives 4-91
4.13.3 No Action Alternative 4-93

5. OTHER CONSIDERATIONS 5-1

5.1 Cumulative Impacts 5-1
5.1.1 Regional Projections 5-1
5.1.2 Reasonably Foreseeable Future Projects 5-4
5.1.3 Potential Cumulative Impacts 5-4
5.2 Unavoidable Adverse Impacts 5-8
5.2.1 Introduction 5-8
5.2.2 Transportation Traffic and Circulation 5-8
5.3 Irreversible/Irretrievable Commitments of Resources 5-9
5.4 Short-Term Uses and Long-Term Productivity 5-9
5.5 Environmental Justice 5-10
5.5.1 Introduction 5-10
5.5.2 Criteria 5-10
5.5.3 Minority Population and Low-Income Population Overview 5-11
5.5.4 Potential Disproportionate Impacts on Minority Populations or Low-Income Populations 5-11
5.6 Protection of Children from Environmental Health Risks and Safety Risks 5-14

6. CONSULTATION AND COORDINATION 6-1

6.1 Personal Communications 6-1
6.2 Scoping and Public Participation 6-3
6.3 Agencies, Organizations, and Persons on Project Mailing List 6-3
6.4 U.S. Navy Points of Contact 6-4
6.5 Other Points of Contact 6-4
6.5.1 Planning Department, City and County of San Francisco 6-4
6.5.2 Office of Military Base Conversion, San Francisco Redevelopment Agency 6-5

TABLE OF CONTENTS (CONTINUED)

SECTION PAGE

6.6 List of Preparers....6-5
6.6.1 Contractor....6-5
6.6.2 Subcontractors....6-7

7. REFERENCES....7-1

8. GLOSSARY....8-1

9. EIS DISTRIBUTION LIST....9-1

TABLE OF CONTENTS (CONTINUED)

APPENDIX PAGE

A PUBLIC PARTICIPATION

Public Scoping for EIS/EIR **A-1**

Scoping Letter A-1
Notice of Intent A-4
Notice of Preparation A-6
Distribution List A-16
Newspaper Advertisement A-25
Public Scoping Attendance List A-26
Agencies, Organizations, and Individuals Who Responded to Scoping Letters A-27

Public Review on November 1997 Draft EIS/EIR **A-70**

Transmittal Letter A-70
Notice of Availability A-72
Notice of Completion A-74
Newspaper Advertisement A-76
Distribution List for November 1997 Draft EIS/EIR A-77

Public Review on October 1998 *Revised* Draft EIS/EIR **A-81**

Transmittal Letter A-81
Notice of Availability A-84
Notice of Completion A-86
Newspaper Advertisement A-88
Distribution List for November 1997 Draft EIS/EIR A-89

B SUPPORTING TECHNICAL INFORMATION

Transportation, Traffic, and Circulation **B-1**

Technical Memorandum: Future Baseline Traffic Growth **B-19**

Record of Non-Applicability **B-29**

Air Quality **B-30**

Letter of Agreement for Consistency Determination **B-72**

Memorandum of Agreement **B-75**

Navy Tenant Hazardous Material Activities, 1997 Tenant Survey **B-84**

Summary of Installation Restoration Program and Facility-Wide Utility Sites **B-91**

Plant, Bird, and Animal Species at Hunters Point Shipyard **B-99**

TABLE OF CONTENTS (CONTINUED)

APPENDIX | PAGE

Technical Summary of Hunters Point Shipyard Real Estate Market Projections (Sedway & Associates, 1995) B-107

C CURRENT BRAC LEASES

D COMMUNITY HISTORY

TABLE OF CONTENTS (CONTINUED)

FIGURE		PAGE
ES-1	Area Map of Hunters Point Shipyard	ES-2
ES-2	Hunters Point Shipyard	ES-3
ES-3	Distribution of Land Uses	ES-9
1.2-1	Area Map of Hunters Point Shipyard	1-4
1.2-2	Hunters Point Shipyard	1-5
2.5-1	Distribution of Proposed Land Uses	2-6
3-1	Region of Influence, South Bayshore Planning Area	3-2
3.1-1	Regional Roadway Network	3-3
3.1-2	Roadway Classification	3-4
3.1-3	Existing Transit Service	3-10
3.1-4	Existing Truck Restrictions	3-15
3.1-5	Existing Study Intersections	3-18
3.4-1	Existing South Bayshore Planning Area Land Use	3-46
3.4-2	Existing Land Uses	3-47
3.4-3	Existing Land Use by Building, Hunters Point Shipyard	3-48
3.4-4	San Francisco Bay Area Seaport Plan Designation for HPS	3-53
3.4-5	Zoning for South Bayshore Planning Area	3-58
3.5-1	Prominent Visual Features and Views, Hunters Point Shipyard	3-62
3.5-2	Visual Areas, Hunters Point Shipyard	3-63
3.5-3	Photograph Locations, Hunters Point Shipyard	3-64
3.5-4	Views of Hunters Point Hilltop Residential Area	3-66
3.5-5	View of Main Gate from the North and View of Northern Area from the South	3-67
3.5-6	Views of East Bay and San Francisco from Northern Area	3-68
3.5-7	Views of Central Area from Ridge	3-70
3.5-8	Views of Central Area Including Large Crane Structure	3-71
3.5-9	View of Southern Open Space Area from On- and Off-Site	3-72
3.5-10	Views Looking South Across Southern Open Space Area	3-73
3.6-1	Census Tracts	3-78
3.7-1	Hunters Point Shipyard Remediation Parcels	3-89
3.7-2	Installation Restoration Program Sites	3-91
3.8-1	Topography, Hunters Point Shipyard	3-105
3.8-2	Regional Fault Map	3-106
3.8-3	Geologic Conditions, Hunters Point Shipyard	3-107
3.8-4	Soil Classification, Hunters Point Shipyard	3-108
3.8-5	Areas Subject to Liquefaction and Densification, Hunters Point Shipyard	3-111
3.12-1	Hunters Point Commercial Drydock Historic District	3-138
3.12-2	Drydock 4	3-141
3.12-3	Drydock 2 and Drydock 3	3-142
3.12-4	Gatehouse (Building 204) and Pumphouse (Building 205)	3-143
3.12-5	Pumphouse 3 (Building 140) and Tool and Paint Building (Building 207)	3-144
3.13-1	Wetlands and Aquatic Habitats, Hunters Point Shipyard	3-153
4.1-1	Affected Intersections Under Proposed Reuse Plan Conditions	4-10
4.1-2	Proposed Transportation Routes Within the Project Site	4-20
4.4-1	Proposed Reuse Plan, Hunters Point Shipyard	4-41
4.6-1	Projected HPS Employment Increases	4-57
4.10-1	Draft SF Utility Infrastructure Phasing Plan	4-79
B-1	San Francisco Superdistrict Boundaries	B-13
B-2	MTC Traffic Analysis Zones	B-16

TABLE OF CONTENTS (CONTINUED)

FIGURE **PAGE**

B-3 Intersections Evaluated for Future Projects B-23
B-4 Bay Area Commute Time Patterns, EIS Pattern vs. 1980 Census B-52
B-5 Assumed Travel Speed Patterns, Hunters Point Shipyard Reuse Alternatives B-54

TABLE OF CONTENTS (CONTINUED)

TABLE | **PAGE**

ES-1	Land Use Development for the Years 2010 and 2025 Under the Proposed Reuse Plan	ES-10
ES-2	Land Use Development for the Years 2010 and 2025 Under the Reduced Development Alternative	ES-11
ES-3	Summary of Significant Environmental Impacts and Mitigations	ES-13
2.5-1	Land Use Development For the Years 2010 and 2025 Under the Proposed Reuse Plan	2-9
2.5-2	Land Use Development For the Years 2010 and 2025 Under the Reduced Development Alternative	2-10
2.8-1	Summary of Significant Environmental Impacts and Mitigations	2-13
3.1-1	Regional & Local Existing Roadways within the South Bayshore Area	3-8
3.1-2	HCM Level of Service Criteria for Intersections	3-16
3.1-3	Existing Intersection Level of Service	3-19
3.1-4	Existing Freeway Conditions	3-20
3.1-5	Existing Ramp Conditions	3-21
3.1-6	Future Baseline Intersection Conditions	3-24
3.1-7	Future Baseline Freeway Conditions	3-26
3.1-8	Future Baseline Ramp Conditions	3-26
3.2-1	Health Effects Summary of the Major Criteria Air Pollutants	3-30
3.2-2	Ambient Air Quality Standards Applicable in California	3-31
3.2-3	Summary Recent Air Quality Monitoring Data for San Francisco	3-35
3.3-1	Summary of Noise Limits Established in the San Francisco Noise Ordinance	3-44
3.4-1	Zoning Districts in the South Bayshore Planning Area	3-59
3.6-1	Comparison of Socioeconomic Characteristics, South Bayshore Planning Area and the City, 1990	3-77
3.6-2	Projected Population Growth, South Bayshore Planning Area and the City, 1990-2020	3-77
3.6-3	Projected Number of Households (and Average Household Size) South Bayshore Planning Area and the City, 1990-2020	3-80
3.6-4	Projected Employment by Sector, City & County of San Francisco, 1990-2020	3-81
3.6-5	Projected Employment by Sector, Bayview-Hunters Point, 1990-2020	3-83
3.6-6	Employed Residents, South Bayshore Planning Area and the City, 1990-2020	3-83
3.8-1	Estimated Probability of a Large Earthquake Occurring in the Bay Area Over the Next 30 Years	3-110
3.10-1	SEWPCP Treatment Capacities and Flows	3-128
3.13-1	Endangered, Threatened, and Sensitive Species Potentially Inhabiting HPS	3-150
4.1-1	Projected Daily Person Trips and Vehicle Trips	4-4
4.1-2	Intersection Level of Service—Year 2010	4-8
4.1-3	Intersection Level of Service—Year 2025	4-9
4.1-4	Project Transit Trips	4-14
4.1-5	Freeway Volume-to-Capacity Ratios	4-16
4.1-6	Ramp Volume-to-Capacity Ratios—Year 2010	4-17
4.1-7	Ramp Volume-to-Capacity Ratios—Year 2025	4-18
4.2-1	Summary of Emissions from Vehicle Travel Associated with the Proposed Reuse Plan	4-25
4.2-2	Summary of Carbon Monoxide Dispersion Modeling Results	4-29
4.2-3	Summary of Emissions from Vehicle Travel Associated with the Reduced Development Alternative	4-30

TABLE OF CONTENTS (CONTINUED)

TABLE PAGE

TABLE		PAGE
4.3-1	Summary of Traffic Noise Modeling Results	4-34
4.3-2	Typical Construction Site Noise Impacts	4-37
4.4-1	Land Uses for the Proposed Reuse Plan	4-42
4.4-2	Land Use for the Reduced Development Alternative	4-49
4.9-1	Changes in Effluent, CSO, and Storm Water Volumes	4-72
5.1-1	Comparison of City-wide Cumulative Growth Projections	5-2
5.1-2	Projected Population in the HPS Area	5-2
5.1-3	Projected Employment in the HPS Area	5-2
5.5-1	Race/Ethnic Composition of the South Bayshore Planning Area and City and County of San Francisco, 1990	5-11
A-1	Draft EIS/EIR Distribution List, November 1997	A-77
A2	Revised Draft EIS/EIR Distribution List, October 1998	A-89
B-1	Signalized Intersection Level of Service Definitions	B-1
B-2	Two-Way Stop Controlled Intersection Level of Service Definitions	B-2
B-3	All-Way Stop Controlled Intersection Level of Service Definitions	B-2
B-4	Existing Freeway Volumes	B-3
B-5	Freeway Ramp Volumes	B-3
B-6	Level of Service - HPS Intersections	B-4
B-7	Level of Service - City Intersections Off HPS	B-5
B-8	Percent Truck Traffic at Selected Off-Site Intersections	B-6
B-9	Trip Generation Rates	B-10
B-10	Project Person-Trip Generation	B-11
B-11	Project Vehicle-Trip Generation	B-11
B-12	Project Trip Distribution	B-12
B-13	MTC Travel Demand Mode Split Percentages	B-15
B-14	Traffic Analysis Mode Split Percentages	B-15
B-15	Earthquake Adjustments	B-15
B-16	Comparison of Land Use Data for Future Cumulative Conditions	B-20
B-17	Comparison of ABAG Projections	B-21
B-18	Comparison of Roadway Traffic Volumes for Future Conditions Weekday P.M. Peak Hour	B-21
B-19	Comparison of Intersection LOS for Future Projects Weekday P.M. Peak Hour	B-22
B-20	Comparison of Freeway LOS for Future ConditionsWeekday P.M. Peak Hour	B-24
B-21	Percent of Intersection Traffic Contributed by the Hunters Point Project for Future Conditions (Weekday P.M. Peak Hour)	B-25
B-22	Percent of Freeway Traffic Contributed by the Hunters Point Project for Future Conditions (Weekday P.M. Peak Hour)	B-25
B-23	Modeled Roadway Network	B-35
B-24	CALINE4 Receptor Coordinates	B-37
B-25	P.M. Peak Hour Operating Models, Local Traffic	B-42
B-26	Emission Factor Adjustment for Extended Engine Idling Time—Year 2010 Emission Rates	B-44
B-27	Emission Factor Adjustment for Extended Engine Idling Time—Year 2025 Emission Rates	B-46
B-28	Travel Time Pattern Assumptions for Alternative Reuse Plans	B-50
B-29	Travel Speed Patterns for Alternative Reuse Plans	B-51

TABLE OF CONTENTS (CONTINUED)

TABLE PAGE

B-30 Bay Area Commute Trip Travel Time Patterns B-51
B-31 National Average Vehicle Trip Lengths B-52
B-32 Cumulative Trip Operating Modes (for Total Emissions Analysis) B-53
B-33 Summer ROG and NO_x Emission Rates for 2010 Conditions B-57
B-34 Summer ROG and NO_x Emission Rates for 2025 Conditions B-59
B-35 PM_{10} and Summer/Winter CO Emission Rates for 2010 Conditions B-61
B-36 PM_{10} and Summer/Winter CO Emission Rates for 2025 Conditions B-63
B-37 PM_{10} from Exhaust, Tire Wear, and Resuspended Dust: Proposed Reuse Plan, 2025 Conditions B-66
B-38 PM_{10} from Exhaust, Tire Wear, and Resuspended Dust: No Action, 2025 Conditions B-68
B-39 PM_{10} from Exhaust, Tire Wear, and Resuspended Dust: Net Increase, Proposed Reuse vs. No Action, 2025 Conditions B-70
B-40 Navy Tenant Hazardous Material Activities, 1997 Tenant Survey, Hunters Point Shipyard B-84
B-41 Summary of Installation Restoration Program and Facility-Wide Utility Sites at at Hunters Point Shipyard B-91
B-42 Plant Species B-99
B-43 Avian Species B-101
B-44 Animal Species B-105

ABBREVIATIONS AND ACRONYMS

AB	Assembly Bill
ABAG	Association of Bay Area Governments
AC Transit	Alameda - Contra Costa Transit District
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Materials
AST	Aboveground Storage Tank
ATC	Authority to Construct
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
Bay Bridge	San Francisco–Oakland Bay Bridge
BCDC	Bay Conservation and Development Commission
BCP	BRAC Cleanup Plan
bgs	Below ground surface
BMP	Best management practice
BRAC	Base Realignment and Closure Act
CAA	Clean Air Act
CAC	Citizens' Advisory Committee
CAL OSHA	California Occupational Safety and Health Administration
Cal. Admin. Code	California Administration Code
Cal. Code. Regs.	California Code of Regulations
Cal. Pub. Res. Code	California Public Resources Code
Cal. Water Code	California Water Code
CAL EPA	California Environmental Protection Agency
CalTrain	California Train
Caltrans	California Department of Transportation
CAP	Corrective Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facility Act
City	City and County of San Francisco
C.F.R.	Code of Federal Regulations
CFU	Total coliform units
cm	centimeters
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
COE	Corps of Engineers
CRP	Community Relations Plan
CSO	Combined sewer overflow
CTBS	Citywide Travel Behavior Survey
CWA	Clean Water Act
CZMA	Coastal Zone Management Act of 1972

ABBREVIATIONS AND ACRONYMS

dB	Decibel
dBA	A-weighted decibel scale
DBCRA	Defense Base Closure and Realignment Act of 1990
DDT	dichlorodiphenyltrichloroethane
DPH	San Francisco Department of Public Health
°C	Degrees Celsius
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
DOHS	Department of Health Services
DPH	Department of Public Health (San Francisco)
DPT	Department of Parking and Traffic (San Francisco)
DTSC	Department of Toxic Substances Control
EBS	Environmental Baseline Survey
EFA West	Environmental Field Activity, West
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FAR	Floor-area ratio
Fed. Reg.	Federal Register
FFA	Federal Facilities Agreement
FS	Feasibility Study
ft^3	Cubic Feet
FUDS	Formerly used defense sites
gpd	Gallons per day
ha	Hectare or Hectares
HABS	Historic American Building Survey
HAER	Historic American Engineering Record
HCM	Highway Capacity Manual
HHRA	Human Health Risk Assessment
HPS	Hunters Point Shipyard
H_2S	Hydrogen Sulfide
HUD	U.S. Department of Housing and Urban Development
ICTF	Intermodal Container Transfer Facility
IR	Installation Restoration
IRP	Installation Restoration Program
JAI	Jerrold Avenue Investigation
JPB	Joint Powers Board
kg	kilogram
km	Kilometer
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt-hour
lb	Pound
LBP	Lead-Based Paint
Ldn	Day-Night Average Sound Level
Leq	Hourly Equivalent Noise Levels
LOS	Level of Service

LRT	Light Rail Transit
m	meter
µg/l	Micrograms per liter
µg/m³	Micrograms per cubic meter
mg/l	Milligrams per liter
mgd	Million gallons per day
mgy	Million gallons per year
ml	Milliliters
mpH	Miles per hour
MOA	Memorandum of Agreement
MSL	Mean Sea Level
MTC	Metropolitan Transportation Commission
MUNI	San Francisco Municipal Railway
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
Navy	Department of the Navy
NAWQC	National Ambient Water Quality Criteria
NCP	National Contingency Plan
NEPA	National Environmental Policy Act of 1969
NOA	Notice of Availability
NESHAP	National Emission Standards for Hazardous Air Pollutants
NGVD	National Geodetic Vertical Datum
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NOP	Notice of Preparation
NO_2	Nitrogen dioxide
NOx	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRDL	Naval Radiological Defense Laboratory
NRHP	National Register of Historic Places
O_3	Ozone
OPNAVINST	U.S. Navy Operational Naval Instructions
OSHA	Occupational Safety and Health Administration
PA	Preliminary Assessment
PA/SI	Preliminary Assessment/Site Inspection
PAC	Project Area Committee
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PG&E	Pacific Gas and Electric
PM_{10}	Inhalable Particulate Matter
$PM_{2.5}$	Fine Particulate Matter
PPC	Pollution Prevention Coordinator
ppm	Parts per million
PTO	Permit to Operate
Pub. L.	Public Law
PUC	Public Utilities Commission

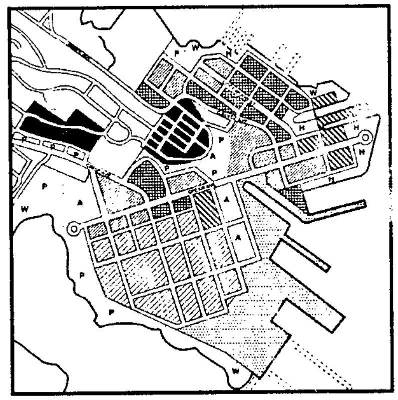
PVC	Polyvinyl Chloride
RA	Remedial Action
Ra-226	Radium-226
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
ROI	Region of Influence
RONA	Record of Non-Applicability
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SamTrans	San Mateo County Transit District
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SDWA	Safe Drinking Water Act of 1974
SEWPCP	Southeast Water Pollution Control Plant
SFFD	San Francisco Fire Department
SFPD	San Francisco Police Department
SFUSD	San Francisco Unified School District
SFWD	San Francisco Water Department
SHPO	State Historic Preservation Officer
SI	Site Inspection
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SOx	Sulfur Oxides
SP	Southern Pacific Transportation Company
SVOC	Semi-Volatile Organic Compound
SWAT	Special Weapons and Tactics
SWDA	Solid Water Disposal Act
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAZ	Travel Analysis Zone
TDM	Transportation Demand Management
TMA	Transportation Management Association
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TSMP	Transportation System Management Plan
TSS	Total Suspended Solids
U.S. EPA	U.S. Environmental Protection Agency
UCSF	University of California at San Francisco
U.S.	United States
U.S.C.	United States Code
U.S.C.A.	United States Code Annotated
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank

ABBREVIATIONS AND ACRONYMS

v/c	volume-to-capacity ratio
VOC	Volatile Organic Compound

191 *This page intentionally left blank*

Executive Summary



Executive Summary

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

In 1990, Congress enacted the Defense Base Closure and Realignment Act of 1990 (DBCRA 1990) (10 United States Code Annotated [U.S.C.A.] § 2687 note at 582-606 [West, 1998]), which was designed to provide decision-makers with an impartial process to assist in the difficult task of military base closure. To date, four rounds of base closures have been initiated (calendar years 1988, 1991, 1993, and 1995). During the course of the base closure process, the Department of the Navy (Navy) has been directed to close and/or realign several of its bases.

The 1991 Defense Base Closure and Realignment Commission recommended the closure of Hunters Point Shipyard (HPS) pursuant to the Base Realignment and Closure Act of 1988, Public Law (Pub. L.) 100-526, and DBCRA 1990. President Bush approved this recommendation, and the One Hundred Second Congress accepted it in 1991. HPS is proposed for disposal pursuant to the Military Construction Authorization Act for Fiscal Year 1994, Pub. L. 103-160, 10 United States Code (U.S.C.) § 2834 (Division B of the Defense Authorization Act for Fiscal Year 1994). This act gave the Secretary of the Navy authority to convey HPS to the City and County of San Francisco (City) (or a local reuse organization approved by the City). Figures ES-1 and ES-2 show the location of HPS.

The City developed a reuse plan, termed the Proposed Reuse Plan, through an extensive public involvement process. The Proposed Reuse Plan represents the City's recommended use of the HPS property. Principle objectives of community reuse include the following: to foster employment, business, and entrepreneurial opportunities; to stimulate and attract private investments, thereby improving the City's economic health, tax base, and employment opportunities; to provide for the development of a variety of land use districts; to provide for the development of mixed-income housing; to preserve historic structures; to provide necessary infrastructure improvements; to remove conditions of blight; to encourage cost- and energy-efficient measures; and to retain existing, viable industries and businesses at HPS (San Francisco Redevelopment Agency, 1997).

This Environmental Impact Statement (EIS) evaluates the potential impacts on the environment that could result from Navy disposal and community reuse of HPS. This Final EIS incorporates and responds to public comments on the *Revised* Draft EIS/Environmental Impact Report (EIR). Following the close of the public comment period on the *Revised* Draft EIS/EIR, the City elected to proceed separately with the conclusion of their environmental review process in order to meet time limits on the

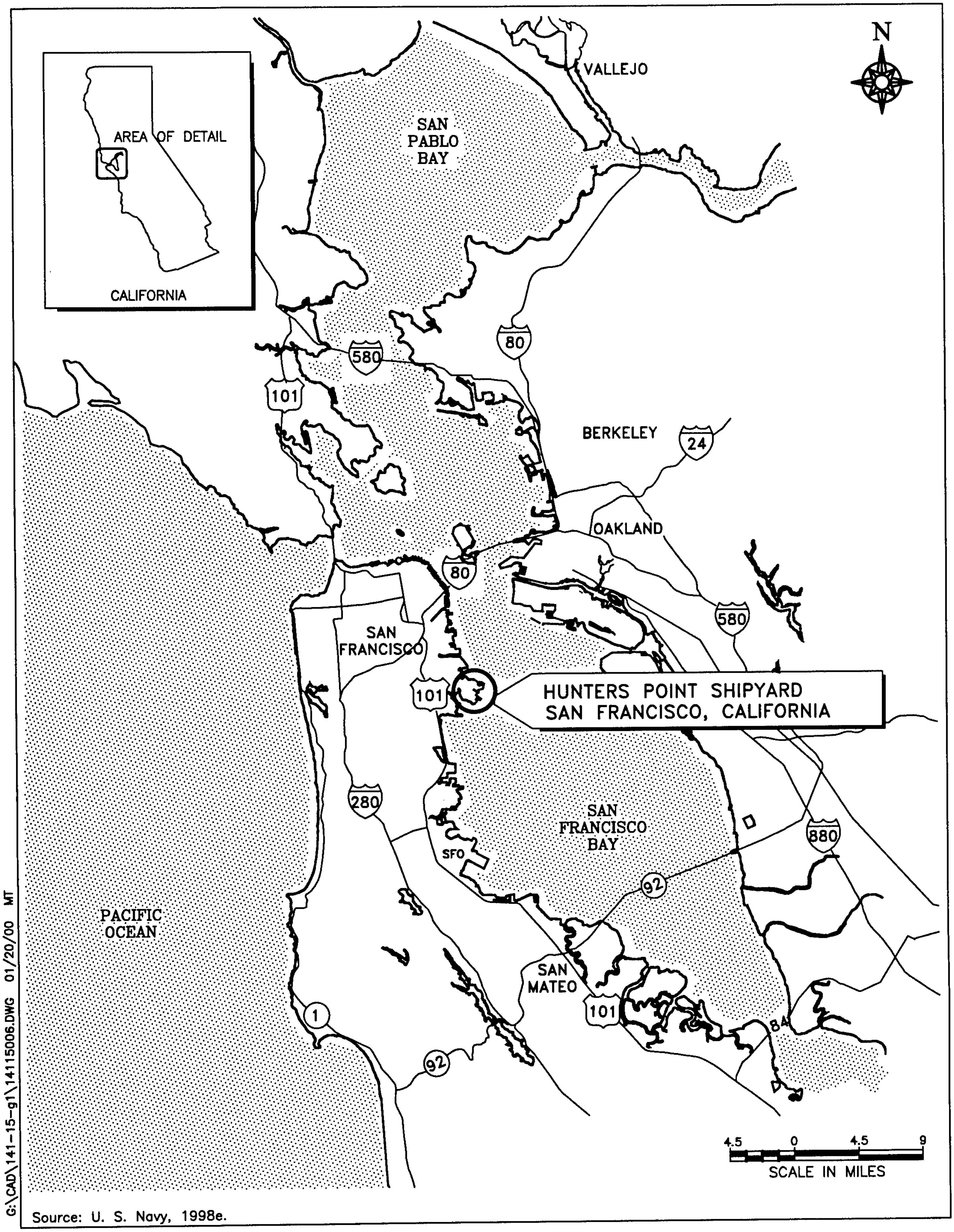
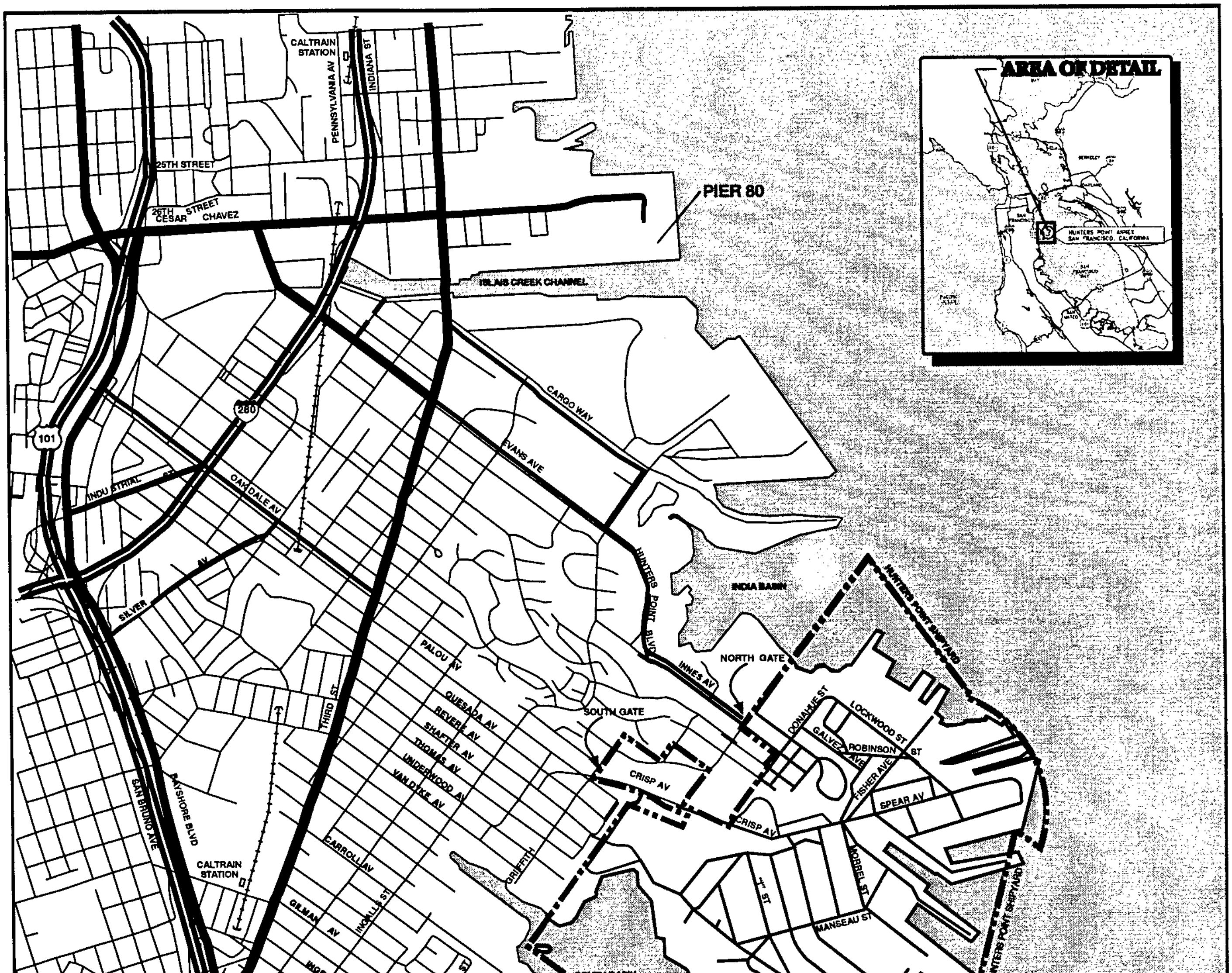


Figure ES-1: Area Map of Hunters Point Shipyard



Prod.:/141-15 HP EIP/HPfigs_Jan00/141-15 fsm_2.fh8 01/20/00 dyu

Figure ES-2: Hunters Point Shipyard

reuse planning process imposed by state law. These time limits would have expired if the process proceeded as a joint Federal/state effort. As a result of the termination of the joint process, Navy is publishing a separate Final EIS. Navy has prepared this Final EIS under the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C.A. §§ 4321-4370d [West, 1994 and Supp. 1998]); the Council on Environmental Quality implementing regulations, 20 Code of Federal Regulations Parts 1500-1508 (1998); Navy guidelines (Chief of Naval Operations Instruction 5090.1B CH-1 [1998]); and DBCRA 1990, as amended. The City has prepared a separate Final EIR under the California Environmental Quality Act (CEQA) (California Public Resources Code §§ 21000-21178.1 [West, 1996 and Supp. 1999]). The analysis is presented at a general level of detail, because the actions to be taken are the disposal of HPS and the implementation of a community reuse alternative (for which land uses are designated at a general level of detail). Additional environmental analysis of the adopted community reuse alternative could be required under state law if the project is substantially altered from that described herein (CEQA Guidelines §§ 15162-15153).

ES.2 PURPOSE AND NEED FOR ACTION

The purpose of and need for the proposed Federal action is to dispose of excess Federal property at HPS for subsequent reuse. The purpose of and need for the local action is to reuse HPS excess property under an economically viable and balanced reuse plan that will create jobs, support new and existing businesses, balance development with environmental conservation, and integrate the new land uses with current plans for the Bayview-Hunters Point community.

ES.3 RELATED STUDIES

Several other project-related studies have been or are being undertaken in conjunction with ongoing activities at HPS. The major planning and restoration programs are summarized below, including the Environmental Baseline Survey (EBS), Installation Restoration Program (IRP), and Base Realignment and Closure (BRAC) Cleanup Plan (BCP).

The EBS identifies known areas of contamination at HPS (U.S. Navy, 1996b, revised 1998e). Two major environmental restoration programs, the IRP and Compliance Program, have been established in response to releases of hazardous substances, pollutants, contaminants, petroleum hydrocarbons, and hazardous and solid waste. The IRP identifies, assesses, characterizes, and cleans up or controls contaminants from past hazardous waste disposal operations and hazardous material spills. The Compliance Program addresses underground storage tanks, aboveground storage tanks, asbestos-containing materials, polychlorinated byphenyls, radiation, and lead-based paint. The BCP (U.S. Navy, 1995a, 1996a, and 1997c) provides information concerning the status of, and strategies for, the cleanup of HPS.

ES.4 PUBLIC INVOLVEMENT PROCESS

Introduction

The EIS process is designed to involve the public in Federal and local decision-making. Opportunities to comment on and participate in the process were provided during preparation of the initial Draft EIS/EIR in 1997. Comments from agencies and the public were solicited to help identify the primary issues associated with the proposed Federal disposal and proposed local reuse of HPS. The City conducted public meetings and workshops as part of the reuse planning process. The public was encouraged to comment on the various reuse alternatives and to identify the most favorable elements. The public's input, as well as feedback from applicable resource and permitting agencies, are used to evaluate the alternatives and environmental impacts prior to final decisions by Navy.

Scoping Process

The purpose of scoping is to identify potential environmental issues and concerns regarding the disposal and subsequent reuse in the reuse plan area. The scoping process for the EIS/EIR included public notification via the Federal Register, newspaper ads, direct mail, and a public meeting. Navy published a Notice of Intent/Notice of Preparation (NOI/NOP) (Appendix A) on June 28, 1995, in the Federal Register and the *San Francisco Chronicle* to inform the public of the preparation of the Draft EIS/EIR. Information concerning the scope of the Draft EIS/EIR was mailed to interested Federal, state, and local agencies; organized groups; and private individuals.

A public scoping meeting was held on July 12, 1995 at the Southeast Community Facility located in the Bayview-Hunters Point neighborhood of San Francisco. Approximately 30 individuals attended. The NOI/NOP announcements encouraged written comments from those unable to attend the scoping meeting.

During the EIS/EIR scoping period, 21 written and 8 verbal comments were received from government agencies, organizations, and the public. These comments addressed issues regarding transportation, air quality, land use, hazardous materials, water quality and wetlands, utilities and public services, biological resources, and public participation.

Public Review Process for the Draft EIS/EIR

The Draft EIS/EIR was published for agency and public review on November 14, 1997. Navy published a Notice of Availability (NOA) in the Federal Register on November 21, 1997, and held a public hearing on December 10, 1997. The hearing was advertised in the *San Francisco Chronicle* and *San Francisco Examiner* on November 30 and December 1, 1997. The City held three public hearings on December 11, 1997 and January 13 and 15, 1998. Substantial written and verbal comments were received by the end of the comment period on January 20, 1998. Public and agency comments focused on issues related to hazardous waste and existing contamination at HPS, ongoing contaminant remediation activities, and potential cumulative impacts related to traffic and air quality. As a result of public testimony, Navy, the City, and the San Francisco Redevelopment Agency prepared and circulated the *Revised* Draft EIS/EIR in November 1998. Comments received on the November 1997 Draft EIS/EIR and additional information and analysis that had become available were considered during the development of the *Revised* Draft EIS/EIR. Because the *Revised* Draft EIS/EIR was made available for public comment, the comments on the November 1997 Draft EIS/EIR were not responded to individually.

Public Review Process for the ***Revised*** ***Draft EIS/EIR***

The *Revised* Draft EIS/EIR was published for agency and public review on November 3, 1998. Navy published an NOA in the Federal Register on November 6, 1998. Public notices were mailed to those on the mailing list, and a Notice of Completion was filed with the Governor's Office of Planning and Research State Clearing House on November 2, 1998.

NEPA and CEQA require a public comment period of 45 days; because the public comment period extended over the Thanksgiving—New Year's holiday season, Navy and the City scheduled a 60-day public comment period that ended on January 5, 1999.

Two public hearings were held and written comments received during the public comment period for the *Revised* Draft EIS/EIR. The first public hearing was held at HPS on December 9, 1998. The second hearing was held jointly by the San Francisco Planning Commission and the San Francisco Redevelopment Agency Commission in downtown San Francisco on December 17, 1998. Newspaper advertisements for the public hearings were published in the *San Francisco Chronicle* and *San Francisco Examiner* (November 30 and December 1, 1998), *The Independent* (December 1 and December 5, 1998), and *San Francisco Bay View* (December 2, 1998).

In response to public comments made at the December 1998 public hearing, the Redevelopment Agency and Planning Department Commissioners extended the public comment period for an additional 14 days (to January 19, 1999). Public and agency comments focused on issues related to hazardous waste and existing contamination at HPS, ongoing contaminant remediation activities, traffic and air quality impacts, potential storm water and wastewater impacts on San Francisco Bay, and environmental justice issues.

After the close of the public comment period on the *Revised* Draft EIS/EIR, Navy and the City decided to prepare separate final documents.

Public Review Process for the Final EIS

The Final EIS, incorporating and responding to comments received on the *Revised* Draft EIS/EIR, is furnished to persons on the distribution list, provided in Chapter 9, and to others requesting a copy. Navy published an NOA of the Final EIS in the Federal Register and in public notices and press releases.

As required under NEPA, there will be a 30-day comment period after the publication of the Final EIS. After the 30-day comment period, Navy will issue a NEPA Record of Decision (ROD).

Comments on the Final EIS can be sent to the following address:

Southwest Division
BRAC Operations Office
1220 Pacific Highway
San Diego, CA 92132-5190
Attn: Melanie Ault
Phone: (619) 532-0954
Fax: (619) 532-0950

ES.5 ALTERNATIVES

Navy can either dispose of HPS excess property for subsequent reuse (Proposed Reuse Plan Alternative or Reduced Development Alternative) or retain the property in Federal ownership (No Action Alternative).

The Navy disposal action is considered to be a component of each reuse alternative. Direct impacts of reuse are indirect impacts of disposal.

Navy Disposal Action

The Federal action is the transfer of title (Navy disposal) of HPS from Federal ownership.

Community Reuse Alternatives

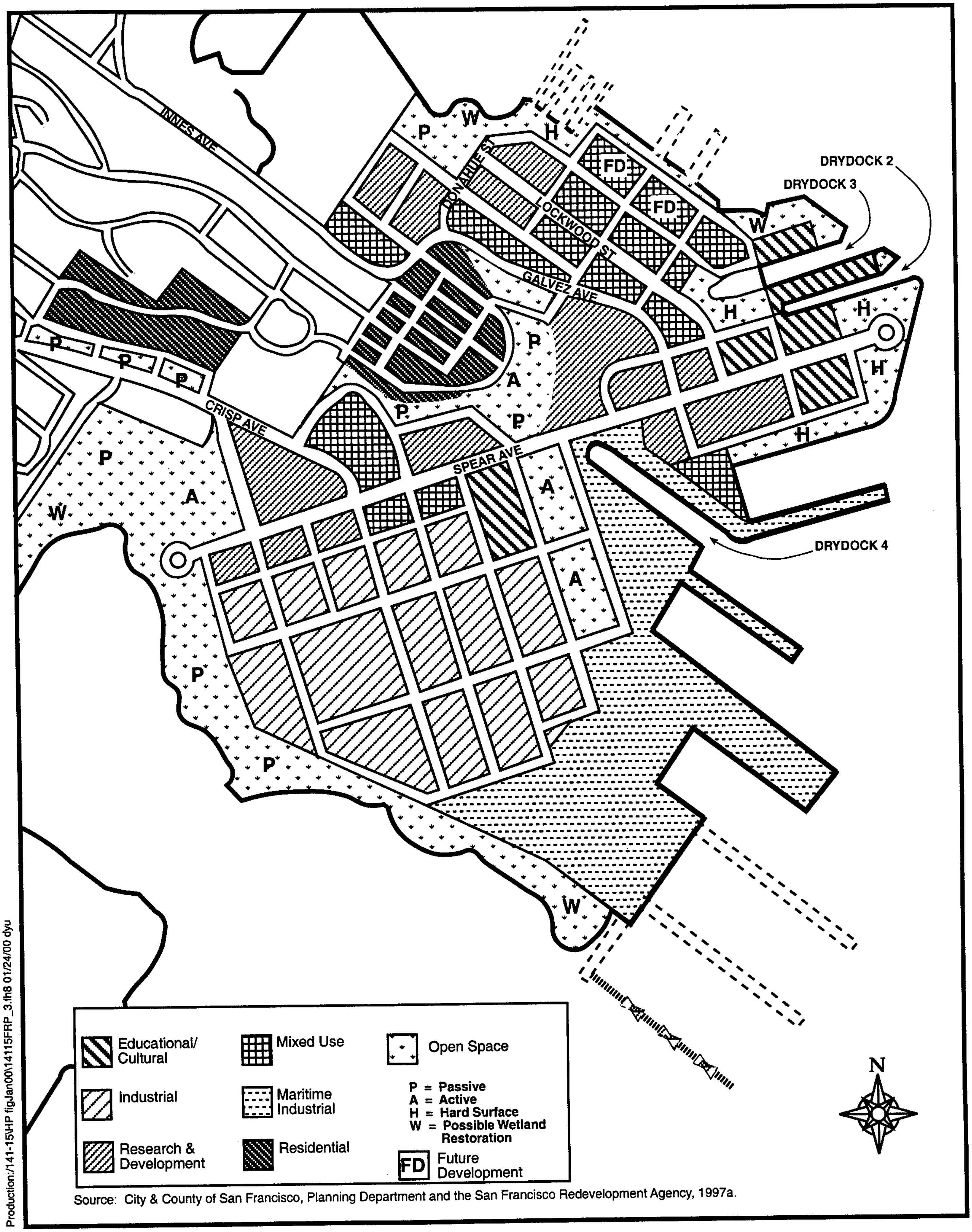
Two reuse alternatives are evaluated: the Proposed Reuse Plan and the Reduced Development Alternative. The Proposed Reuse Plan is the preferred alternative. Development is analyzed at two points in time (2010 and 2025).

Both reuse alternatives are mixed land-use development. Uses include industrial, maritime industrial, research and development, educational and cultural, institutional, residential, mixed use, and open space. The reuse alternatives would be implemented by the *Hunters Point Shipyard Redevelopment Plan*, which was adopted by the San Francisco Board of Supervisors in July 1997 (Ordinance No. 285-97). A companion *Design for Development* (City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, 1997c), containing development controls and standards, was later adopted by the San Francisco Redevelopment Agency Commission. These documents are implementing tools, intended to facilitate redevelopment of HPS in a manner that is consistent with the Proposed Reuse Plan. The *Redevelopment Plan* and the *Design for Development* will be amended to reflect Navy transfer conditions, adopted CEQA mitigation measures, and/or changes in the Proposed Reuse Plan.

Land uses under both community reuse alternatives would be arranged as illustrated on Figure ES-3. In general, the south-central portion of the property would contain about 96 acres (39 hectares [ha]) of industrial uses. To the east of the industrial use area, 85 acres (34 ha) are proposed for maritime industrial land uses. To the north and east of the industrial area, 70 acres (28 ha) are proposed for research and development uses. Interspersed with the research and development uses are 55 acres (22 ha) of mixed-use development, including artist studios, live/work units, retail commercial, and 25 acres (10 ha) of education and cultural uses. To the northwest of the industrial use designation, about 38 acres (15 ha) are proposed for residential development, which would include 1,300 units of housing (apartments, single-family units, and duplexes). To the west and along most of the waterfront (except for the shoreline area designated for maritime industrial uses), about 124 acres (50 ha) are proposed for open space uses.

Proposed Reuse Plan Alternative

The March 1995 *Land Use Alternatives and Proposed Draft Plan, Hunters Point Shipyard*, which was revised in January 1997, is the land use plan for HPS and provides the basis for the Proposed Reuse Plan alternative. (The 1995 *Draft Plan* and January 1997 correspondence amending the *Draft Plan* are available for review at the San Francisco



Source: City & County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1997a.

Figure ES-3: Distribution of Land Uses

Production:/141-15HP figJan00\14115FRP_3.fh8 01/24/00 dyu

Planning Department, 1660 Mission Street.) The amount of development activity expected under the Proposed Reuse Plan is based on a detailed market study and would result in about 6,400 new jobs by 2025 (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995). Table ES-1 provides a breakdown of the potential maximum gross square feet of development that would be reasonable to expect under the Proposed Reuse Plan in 2010 and 2025.

TABLE ES-1: LAND USE DEVELOPMENT FOR THE YEARS 2010 AND 2025 UNDER THE PROPOSED REUSE PLAN

LAND USE	POTENTIAL GROSS SQUARE FEET YEAR 2010	POTENTIAL GROSS SQUARE FEET YEAR 2025	APPROXIMATE ACRES YEAR 2025
Industrial	385,000	775,000	96
Maritime Industrial	175,000	360,000	85
Research & Development	65,000	312,000	70
Cultural/Education	335,000	555,600	25
Mixed Use	570,000	1,150,000	55
Live/Work (in Mixed Use Areas) (Note 1)	300,000 (300 units)	500,000 (500 units)	(Note 2)
Residential (Notes 1 and 3)	1,300,000 (1,300 units)	1,300,000 (1,300 units)	38
Open Space	NA	NA	124

Source: City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995, and the San Francisco Redevelopment Agency, 1998a.

Notes:

(1) Residential units and live/work units are assumed to average 1,000 square feet per unit. The numbers of units are rounded.

(2) Live/work units are included in "Mixed Use," so there is no separate acreage for live/work.

(3) Under the Proposed Reuse Plan for both 2010 and 2025, residential units include 800 single family and duplex dwelling units and 500 apartments over commercial space.

NA Not Applicable

Reduced Development Alternative

The Reduced Development Alternative has the same objectives and includes the same land uses and areas as those in the Proposed Reuse Plan, but with development reduced in scale. Development within each land use type would be less intensive and would consist of smaller or fewer buildings. This alternative would result in the potential creation of up to 2,700 jobs by 2025. Table ES-2 provides an estimated breakdown of potential gross square footage of development in both 2010 and 2025 under the Reduced

Development Alternative. This alternative would include development controls or limitations to ensure that reuse remains at the reduced levels shown in Table ES-2. It would allow for more deliberate selection of new users and staged implementation of proposed infrastructure improvements.

No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. Environmental cleanup would continue and be completed. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions.

TABLE ES-2: LAND USE DEVELOPMENT FOR THE YEARS 2010 AND 2025 UNDER THE REDUCED DEVELOPMENT ALTERNATIVE

LAND USE	POTENTIAL GROSS SQUARE FEET YEAR 2010	POTENTIAL GROSS SQUARE FEET YEAR 2025	APPROXIMATE ACRES YEAR 2025
Industrial	192,000	377,000	96
Maritime Industrial	88,000	173,000	85
Research & Development	30,000	100,000	70
Cultural/Education	165,000	345,000	25
Mixed Use	130,000	300,000	55
Live/Work (in mixed-use areas) (Note 1)	65,000 (65 units)	100,000 (100 units)	(Note 2)
Residential (Note 1)	300,000 (300 units)	300,000 (300 units)	38
Open Space	NA	NA	124

Source: City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995 and the San Francisco Redevelopment Agency, 1998a.

Notes:

(1) Residential units and live/work units are assumed to average 1,000 square feet per unit. The number of units are rounded.

(2) "Live/work units are included in "Mixed Use," so there is no separate acreage for live/work.

NA Not Applicable

ES.6 AFFECTED ENVIRONMENT

This document assesses effects on natural and community resources, including transportation, traffic, and circulation; air quality; noise; land use; visual resources and aesthetics; socioeconomics; hazardous materials and waste; geology and soils; water resources; utilities; public services; cultural resources; and biological resources. Chapter 3 describes the existing conditions of these resources at HPS and in the surrounding region of influence.

ES.7 ENVIRONMENTAL CONSEQUENCES

This EIS evaluates the potential environmental consequences of the decision to dispose of Navy property and the proposed reuse of HPS by the City. The EIS compares potential environmental impacts with NEPA factors for impact significance for each environmental resource category mentioned in the foregoing "Affected Environment" section. Direct environmental consequences are those associated with Navy's disposal action and the No Action Alternative, and indirect environmental consequences are those associated with reuse of HPS property.

Table ES-3 summarizes the environmental consequences of the Navy disposal action, the two community reuse alternatives, and the No Action Alternative.

ES.8 OTHER CONSIDERATIONS

This section of the EIS addresses various other topics required by NEPA.

Cumulative Impacts

Federal guidelines implementing NEPA define a cumulative impact as one that would result from the incremental impact of an action when added to other past, present, and reasonable foreseeable actions (40 C.F.R. § 1508.7). Because build-out of either reuse alternative would occur over about 25 years, it is appropriate to evaluate cumulative impacts in conjunction with the build-out of the City's General Plan.

One significant and unmitigable cumulative impact would occur for transportation, traffic and circulation under both community reuse alternatives. Other resource areas would not result in cumulatively significant impacts.

Significant Unmitigable Adverse Effects

A significant unmitigable adverse effect under NEPA is one for which either no mitigation or only partial mitigation is feasible. Both community reuse alternatives

TABLE ES-3
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATIONS

Resource Category	NAVY ACTIONS		CITY OF SAN FRANCISCO REUSE ALTERNATIVES	
	Disposal	No Action Alternative	Proposed Reuse Plan	Reduced Development Alternative
Transportation, Traffic, and Circulation	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	**Significant Unmitigable Impact** *Increased Traffic at Third Street/Cesar Chavez Street Intersection.* Operation of the signalized Third Street/Cesar Chavez Street intersection would worsen in the P.M. peak hour from LOS B to LOS F by 2010. The addition of project-rated traffic would contribute to long delays (i.e., over 60 seconds per vehicle) at this intersection. This is considered a significant impact. The following measures would reduce, but not eliminate, cumulative traffic congestion, which would remain significant. Adopt a Transportation Demand Management (TDM) approach. Form an HPS Transportation Management Association (TMA), which would develop and implement a Transportation System Management Plan (TSMP). The TSMP would include transit pass sales; transit, pedestrian, and bicycle information; employee transit subsidies; expanded transit services and monitoring of transit demand; secure bicycle parking; parking management guidelines; flexible work time/ telecommuting; shuttle service; monitoring of physical transportation improvements; ferry service studies; and local hiring practices. **Significant and Mitigable Impacts** *Impact 1: Increased Traffic at Third Street/Evans Avenue Intersection.* Operation of the signalized Third Street/Evans Avenue intersection would worsen in both the A.M. and P.M. peak hours from LOS C to LOS F by 2010. The addition of project-related traffic would contribute to long delays (i.e., over 60 seconds/vehicle) at this intersection. This would be a significant impact. *Mitigation 1.* Eliminate the southbound left-turn lane and re-route turns via Phelps Street to Evans Street. Signalize the Phelps/Evans intersection and remove parking along Phelps and Evans Streets. In addition, adopt a TDM approach as described under the Significant Unmitigable Impact. *Impact 2: Increased Traffic at Evans Avenue/Cesar Chavez Street Intersection.* Operation of the signalized Evans Avenue/Cesar Chavez Street intersection would worsen in the P.M. peak hour from LOS D to LOS E by 2025. The addition of project-related traffic would increase delays at this intersection from 39.4 seconds per vehicle to 43.0 seconds per vehicle. This would be a significant impact.	**Significant Unmitigable Impacts** Impact 1 is the same as under the Proposed Reuse Plan. **Significant and Mitigable Impacts** This impact is less than significant under the Reduced Development Alternative. No mitigation is required. This impact is less than significant under the Reduced Development Alternative. No mitigation is required.

TABLE ES-3
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATIONS (CONTINUED)

Resource Category	NAVY ACTIONS		CITY OF SAN FRANCISCO REUSE ALTERNATIVES	
	Disposal	No Action Alternative	Proposed Reuse Plan	Reduced Development Alternative
Transportation, Traffic, and Circulation (continued)			*Mitigation 2.* Restripe the existing northbound shared left/right-turn lane on Evans Avenue to create an exclusive left-turn lane and an exclusive right-turn lane. Widen the Evans Avenue northbound approach at Cesar Chavez Street. The southeast corner curb return would require structural modifications to the existing viaduct. Change the existing signal timing plan to include the exclusive left-turn and right-turn lanes. In addition, adopt a TDM approach as described under the Significant Unmitigable Impact. *Impact 3: Increased Demand for Public Transportation Exceeding Planned or Anticipated Capacity.* Although transportation planning has been done for HPS in the *Hunters Point Shipyard Transportation Plan*, there are no formally adopted plans to provide transit service to HPS at this time. Therefore, the projected increase in demand for public transportation is a significant impact. . *Mitigation 3.* Form an HPS TMA and implement a TSMP, as described under the Significant Unmitigable Impact. *Impact 4: Increased Demand for Pedestrian and Bicycle Facilities Exceeding Planned or Anticipated Capacities.* Until facilities are constructed, increased pedestrian and bicycle activity may not be accommodated. *Mitigation 4.* Require planning and implementation of pedestrian and bicycle facilities as part of development. Monitor and ensure completion of these facilities as part of the TSMP described under the Significant Unmitigable Impact.	This impact is less than significant under the Reduced Development Alternative. This impact is less than significant under the Reduced Development Alternative. No mitigation is required.
Air Quality	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Noise	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	**Significant and Mitigable Impact** *Impact 1: On-site Traffic Noise (East of Donahue Street).* Properties within 100 feet (30 meter [m]) of the roadway centerline of Donahue Street would be exposed to Community Noise Equivalent Level (CNEL) above 65 dBA (A-weighted decibel scale) at build-out of the Proposed Reuse Plan in 2025. These noise levels would have a significant impact on residential properties proposed for development on the east side of Donahue Street.	**Significant and Mitigable Impact** Impact 1 is similar to that under the Proposed Reuse Alternative, except that CNELs are projected at 62 dBA in 2025.

TABLE ES-3
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATIONS (CONTINUED)

Resource Category	NAVY ACTIONS		CITY OF SAN FRANCISCO REUSE ALTERNATIVES	
	Disposal	No Action Alternative	Proposed Reuse Plan	Reduced Development Alternative
Noise (Continued)			*Mitigation 1.* To reduce noise impacts on proposed residential properties east of Donahue Street, orient and design new or renovated buildings such that future noise intrusion would be minimized to within acceptable levels. Physical barriers also could be constructed to reduce noise transmission to these residential areas.	Mitigation 1 is the same as under the Proposed Reuse Plan.
Land Use	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Visual Resources and Aesthetics	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Socioeconomics	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Hazardous Materials and Waste	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Geology and Soils	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	**Significant and Mitigable Impacts** *Impact 1: Seismic Hazards Associated with Older Buildings.* Unconsolidated sediments and fill materials underlying the site would be subject to liquefaction, densification, and differential settlement in the event of a sustained earthquake. These effects could damage or destroy older buildings that have not been adequately retrofitted. Seismic activity could increase risks to the public if the occupancy of older buildings is increased during reuse. *Mitigation 1.* Before increasing the occupancy of existing buildings, survey buildings that may be unsafe in the event of an earthquake, and take appropriate steps to prevent injury. These steps could include interior modifications, bracing, retrofits, and/or access restrictions. *Impact 2: Naturally Occurring Asbestos.* Because asbestos-containing serpentinite rock occurs at HPS, chrysotile asbestos could become airborne due to construction-related excavation activities. Even with implementation of existing regulations, there is a still a potentially significant risk to public health and safety.	**Significant and Mitigable Impacts** This impact and its mitigation are the same as under the Proposed Reuse Plan. This impact and its mitigation are the same as under the Proposed Reuse Plan.

TABLE ES-3
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATIONS (CONTINUED)

Resource Category	NAVY ACTIONS		CITY OF SAN FRANCISCO REUSE ALTERNATIVES	
	Disposal	No Action Alternative	Proposed Reuse Plan	Reduced Development Alternative
Geology and Soils (Continued)			*Mitigation 2.* Continuously wet serpentinite involved in excavation or drilling operations. Wet and cover stockpiled serpentinite. Cap serpentinite used as fill material with at least one foot (0.3 m) of clean non-serpentinite fill material, and implement institutional controls to prevent future exposure from excavation activities.	
Water Resources	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	**Significant and Mitigable Impact** *Impact 1: Discharges of Treated Combined Sewer Overflows.* Redeveloping HPS with a combined sewer system would increase combined sewer overflow (CSO) volumes on the Bayside by 4.5 percent and contribute to a potential cumulative Bayside increase of 11 percent. The cumulative increase in CSO volumes at outfalls in the Yosemite basin (38 percent) would have the potential to negatively affect beneficial uses at nearby Candlestick Point State Recreation Area if it would increase the number of days that water-contact recreation and other activities are prohibited. *Mitigation 1.* Eliminate projected increases in CSO volumes caused by storm water discharges to the City's combined system by upgrading or replacing the separated system at HPS or by adding substantial storage to a new combined sewer system. Also consider ways to offset nonsignificant increases attributable to sanitary flows. Arrange for the PUC to condition permits issued for groundwater discharge to the City's combined sewer system, so that discharges do not occur in wet weather when overflows are anticipated to occur.	**Significant and Mitigable Impact** This impact and its mitigation are the same as under the Proposed Reuse Plan.
Utilities	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Public Services	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Cultural Resources	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.

TABLE ES-3
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATIONS (CONTINUED)

Resource Category	NAVY ACTIONS		CITY OF SAN FRANCISCO REUSE ALTERNATIVES	
	Disposal	No Action Alternative	Proposed Reuse Plan	Reduced Development Alternative
Biological Resources	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	**Significant and Mitigable Impacts** *Impact 1: Increased Human Activity Near Sensitive Habitats.* The Proposed Reuse Plan would develop the Bay Trail along the HPS shoreline. This access would increase human and domestic animal activity along the HPS shoreline. The increased activity could reduce wetland habitat value for waterfowl and shorebirds and potentially cause inadvertent take of migratory bird individuals, nests, or eggs (in violation of the Migratory Bird Treaty Act of 1972). An increase in the number of people using these areas also could increase disturbances to sensitive wetland habitats, both directly from individuals going off-trail and indirectly from noise and movement. Similarly, an increase in uncontrolled domestic animal activity could directly impact wetland-dependent species by increasing loss from predation.	**Significant and Mitigable Impacts** This impact and its mitigation are the same as under the Proposed Reuse Plan.
			Mitigation 1. Place barriers along the Bay side of trails to reduce human and domestic animal disturbances to sensitive wetland habitats. Design barriers so that wildlife cannot hear or see people from foraging areas and so that people cannot easily leave the trail to enter sensitive wildlife areas. Develop and implement a public access program to include fencing sensitive areas, posting signs, and imposing leash requirements to further reduce disturbance to wetland areas.	
			Impact 2: Increased Litter. Developing the Bay Trail along the HPS shoreline would increase human activity along the shoreline and could increase the likelihood of litter. Litter blown or thrown into wetlands or the Bay would pose a choking and feeding hazard to aquatic wildlife and shorebirds.	This impact and its mitigation are the same as under the Proposed Reuse Plan.
			Mitigation 2. Provide adequate trash receptacles along public access areas. Ensure pick-up and trash receptacle maintenance on a regular basis.	

would contribute to one significant unmitigable transportation, traffic and circulation impact. HPS reuse would result in congested traffic conditions with long delays at the Third Street/Cesar Chavez intersection in the years 2010 and 2025. This impact would be unmitigable because proposed measures that could be implemented in conjunction with either reuse alternative would reduce, but not eliminate, the traffic congestion, which would remain significant.

Irreversible/Irretrievable Commitment of Resources

NEPA requires that an EIS analyze the extent to which the primary and secondary effects of the alternatives under consideration would commit nonrenewable resources to uses that future generations would be unable to reverse. Navy disposal of HPS increases options for site use and for responsible long-term resource management and makes no resource commitments. Implementing either the Proposed Reuse Plan or the Reduced Development Alternative would require a significant commitment of both renewable and nonrenewable energy and material resources for demolishing and constructing structures and infrastructure. Developing the site under either alternative would commit HPS to a general set of uses for the foreseeable future.

Short-Term Uses and Long-Term Productivity

An EIS must describe the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. Special attention is given to effects that might limit the range of beneficial uses of the HPS environment or pose long-term risks to health and safety.

Implementing the Proposed Reuse Plan or Reduced Development Alternative would cause short-term impacts associated with construction. There would be both short-term and long-term beneficial effects, including increased public access to open space and the shoreline. The Proposed Reuse Plan would enhance long-term productivity, resulting in increased employment in the area and other improvements in economic activity, housing, and infrastructure. Consequently, the project's short-term impacts on the natural environment would be minimal in relation to the positive effects on long-term human productivity in the area.

Environmental Justice

Executive Order 12989, Environmental Justice in Minority and Low-Income Populations, 59 Fed. Reg. 7629 (1994), requires addressing the relative impacts of Federal actions on minority and low-income populations to avoid the placement of a disproportionate share of adverse impacts of these actions on these socioeconomic groups. Neither of the community reuse alternatives would have a disproportionate impact on minority or low-income populations.

The Proposed Reuse Plan would contribute to an unmitigable traffic impact on the Third Street and Cesar Chavez Street intersection. HPS reuse would contribute about 19 percent to the overall traffic volumes projected at this intersection, which is in census tract 609. According to 1990 census data, of the eight census tracts that make up the South Bayshore planning area, census tract 609 had the most diverse racial composition and the smallest proportion of African Americans (19 percent) and other minority groups (36 percent). Therefore, traffic congestion at this intersection would not have a disproportionately high and adverse effect on minority and low-income populations.

Traffic associated with HPS reuse would contribute to cumulatively significant increased traffic congestion along U.S. 101 at the county line and along I-280 south of U.S. 101. This impact is considered unmitigable. However, because of the regional character of these transportation facilities, the range of communities that use these facilities, and the small contribution of traffic generated by HPS reuse to these corridors, regional traffic impacts would not disproportionately affect minority and low-income populations.

Protection of Children from Environmental Health Risks and Safety Risks

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks, 62 Fed. Reg. 19885 (1997), requires assessment of child-specific environmental health risk and safety risk issues. There could be potential on-site health and safety impacts resulting from exposure to environmental contamination/hazardous materials on the site during reuse, but there is no indication that any such potential impacts would disproportionately affect children. Therefore, no disproportionate impacts from environmental health risks and/or safety risks to children are likely under either of the reuse alternatives.

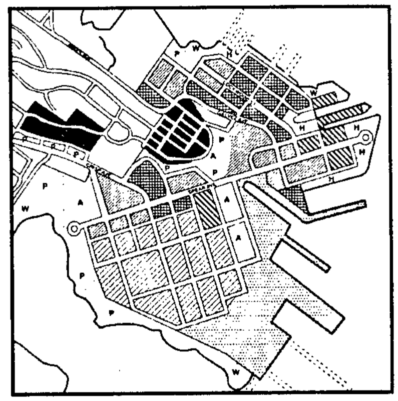
ES.9 SAN FRANCISCO REDEVELOPMENT AGENCY COORDINATION

Federal, state, and local agencies were consulted before and during the preparation of this EIS. Agencies were notified of plans for closure and disposal activities by mailings; by scheduled public meetings associated with the reuse planning process; by publication of an NOI/NOP announcing preparation of the initial Draft EIS/EIR and the *Revised* Draft EIS/EIR, as required by NEPA; by a public scoping meeting; and by public hearings on the initial Draft EIS/EIR and the *Revised* Draft EIS/EIR. The agencies' viewpoints were solicited with regard to activities within their jurisdiction.

365

This page intentionally left blank.

1 Purpose and Need for Document



CHAPTER 1: PURPOSE AND NEED

CONTENTS

PAGE

1. PURPOSE AND NEED 1-1

1.1 Purpose and Need for Action 1-1

1.2 Location and History 1-3

1.3 Document Organization 1-6

1.4 Public Involvement Process 1-7

1.5 Related Studies 1-10

1.6 Community Reuse Planning Process 1-11

1. PURPOSE AND NEED

This Final Environmental Impact Statement (EIS) evaluates the potential significant impacts on the natural and human environment that could result from the disposal of Hunters Point Shipyard (HPS) from Federal ownership and subsequent reuse of the property by the City and County of San Francisco (hereafter referred to as the City). The Final EIS incorporates and responds to public comments on the *Revised* Draft EIS/Environmental Impact Report (EIR). Following the close of the public comment period on the *Revised* Draft EIS/EIR, the City elected to proceed separately with the conclusion of their environmental review process in order to meet time limits on the reuse planning process imposed by state law. These time limits would have expired if the process proceeded as a joint Federal/state effort. As a result of the termination of the joint process, Navy is publishing a separate Final EIS. Navy prepared this Final EIS under the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Annotated [U.S.C.A.] §§ 4321-4370d [West, 1994 and Supp. 1998]), and the City has prepared a final EIR under the California Environmental Quality Act (CEQA) (California Public Resources Code §§ 21000-21178.1 [West, 1996 and Supp. 1999]).

HPS was selected for closure pursuant to the Base Realignment and Closure (BRAC) Act of 1988, Public Law (Pub. L.) 100-526, and Defense Base Closure and Realignment Act of 1990 (DBCRA 1990), 10 U.S.C.A. § 2687 note at 582-606 (West, 1998). The 1991 Defense Base Closure and Realignment Commission recommended the closure of HPS. This recommendation was approved by President Bush and accepted by the One Hundred Second Congress in 1991. HPS is proposed for disposal pursuant to the Military Construction Authorization Act, Pub. L. 103-160, 10 United States Code (U.S.C.) § 2834.

The Federal action subject to NEPA is Navy disposal of HPS to facilitate economic redevelopment.

1.1 PURPOSE AND NEED FOR ACTION

For the past several years, the Department of Defense (DOD) has gone through a process of reducing the number of its bases. The decision to transfer HPS out of Federal ownership is a result of that base closure process. Legislation included as part of the Defense Authorization Act for Fiscal Year 1991, Pub. L. 101-510 § 2824, initially required Navy to lease not less than 260 acres (105 hectares [ha]) of HPS to the City at fair market value for at least 30 years ("Pelosi Legislation"). Finding that the facility had low military value because of significant encroachment that would result from congressionally mandated outleasing to the City, the Defense Base Closure and Realignment Commission recommended in its 1991 Report to the President that the Hunters Point facility be closed and the entire property outleased, with provisions for continued occupancy of space by the Supervisor of Shipbuilding, Conversion and Repair; Planning, Engineering, Repair and Alterations Detachment; and a contractor-operated test facility.

The Department of Defense Authorization Act for Fiscal Year 1994, Pub. L. 103-160, § 2834, amended § 2824 (a) of Pub. L. 101-510 to give the Secretary of the Navy authority to convey the Hunters Point facility to the City (or a local reuse organization approved by the City) for such consideration and under such terms as the Secretary considers appropriate in lieu of entering into a fair market value lease, as required by § 2824(a) of the Defense Authorization Act for Fiscal Year 1991 (Pub. L. 101-510). Navy has determined that it will use this congressional authority for the proposed disposal of HPS. This legislative grant of conveyance authority is independent of the Federal Property and Administrative Services Act of 1949, 40 U.S.C.A. §§ 471-544 (West, 1986 and Supp. 1998), and its implementing regulations, the Federal Property Management Regulations, 41 Code of Federal Regulations (C.F.R.) Part 101-47, as well as DBCRA 1990 § 2906.

The closure decision is exempt from NEPA under the Defense Authorization Act, Pub. L. 101-510 § 2906. Analysis of the environmental effects of Navy disposal of the property and potential reuse are not exempted from analysis under NEPA. Requirements under DBCRA 1990 and its amendments relevant to the disposal of HPS include the following:

- Compliance with NEPA and related laws.
- Environmental restoration of the property, as soon as possible, with funds made available for such restoration.
- Consideration of the local community's reuse plan prior to disposal of the property.
- Compliance with specific Federal property disposal laws and regulations.

The reuse alternatives analyzed in the EIS are the City's Proposed Reuse Plan and Reduced Development Alternative. The analysis is presented at a general level of detail, because the actions to be taken are the disposal of HPS and the implementation of a community reuse alternative (for which land uses are designated at a general level of detail). Additional environmental analysis of the adopted community reuse alternative could be required under state law if the project is substantially altered from that described herein (CEQA Guidelines §§ 15162-15153).

The City developed a reuse plan, termed the Proposed Reuse Plan, through an extensive public process (Section 1.6); the Proposed Reuse Plan provides an economically viable and balanced plan to reuse excess Federal property. The Proposed Reuse Plan would be implemented by the *Hunters Point Shipyard Redevelopment Plan*, which was adopted by the San Francisco Board of Supervisors in July 1997 (Ordinance No. 285-97). A companion *Design for Development* (City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, 1997c), containing development controls and standards, was later adopted by the San Francisco Redevelopment Agency Commission. These documents are implementing tools, intended to facilitate redevelopment of HPS in a manner that is consistent with the Proposed Reuse Plan. The *Redevelopment Plan* and the *Design for Development* may be amended to reflect Navy transfer conditions, adopted CEQA mitigation measures, and/or changes in the Proposed Reuse Plan. Additional environmental analysis of these amendments could be required under state law (CEQA Guidelines §§ 15162-15153).

1.2 LOCATION AND HISTORY

HPS is located within the City and covers about 493 acres (200 ha) of dry land and 443 submerged acres (179 ha) on San Francisco's southeast waterfront (Figure 1.2-1). HPS is bordered by San Francisco Bay to the north, south, and east. The City's Bayview-Hunters Point neighborhood borders the site to the west (Figure 1.2-2).

Maritime use of Hunters Point dates back to the 1850s, when privately owned docking facilities and a timber pier were established. Commercial ship maintenance, repair, and dismantling began at the site in 1868, when the first drydock was built. In 1903, a second drydock was constructed. A third drydock, incorporating part of the first drydock, was built in 1918. Commercial activities near the drydock area in the late 1800s and early 1900s included fishing camps, packing houses, and a coal-gasification plant.

In 1939, Navy purchased the Hunters Point property and subsequently leased it to the Bethlehem Steel Company until late 1941. At that time, Navy took possession of the property, acquired additional land, and began using it as an annex to the Mare Island facility for ship repair. Between 1940 and 1945, the shipyard was expanded through extensive cut and fill operations. The property served as a major ship repair and construction facility and was officially designated a U.S. Naval Shipyard on November 30, 1945. The shipyard was used primarily as a Navy industrial operation for the modification, maintenance, and repair of ships (U.S. Navy, 1995a). The mission of HPS before deactivation in 1974 was to perform work in connection with the construction, conversion, overhaul, repair, alteration, drydocking, and outfitting of assigned ships and service craft (U.S. Navy, 1998c).

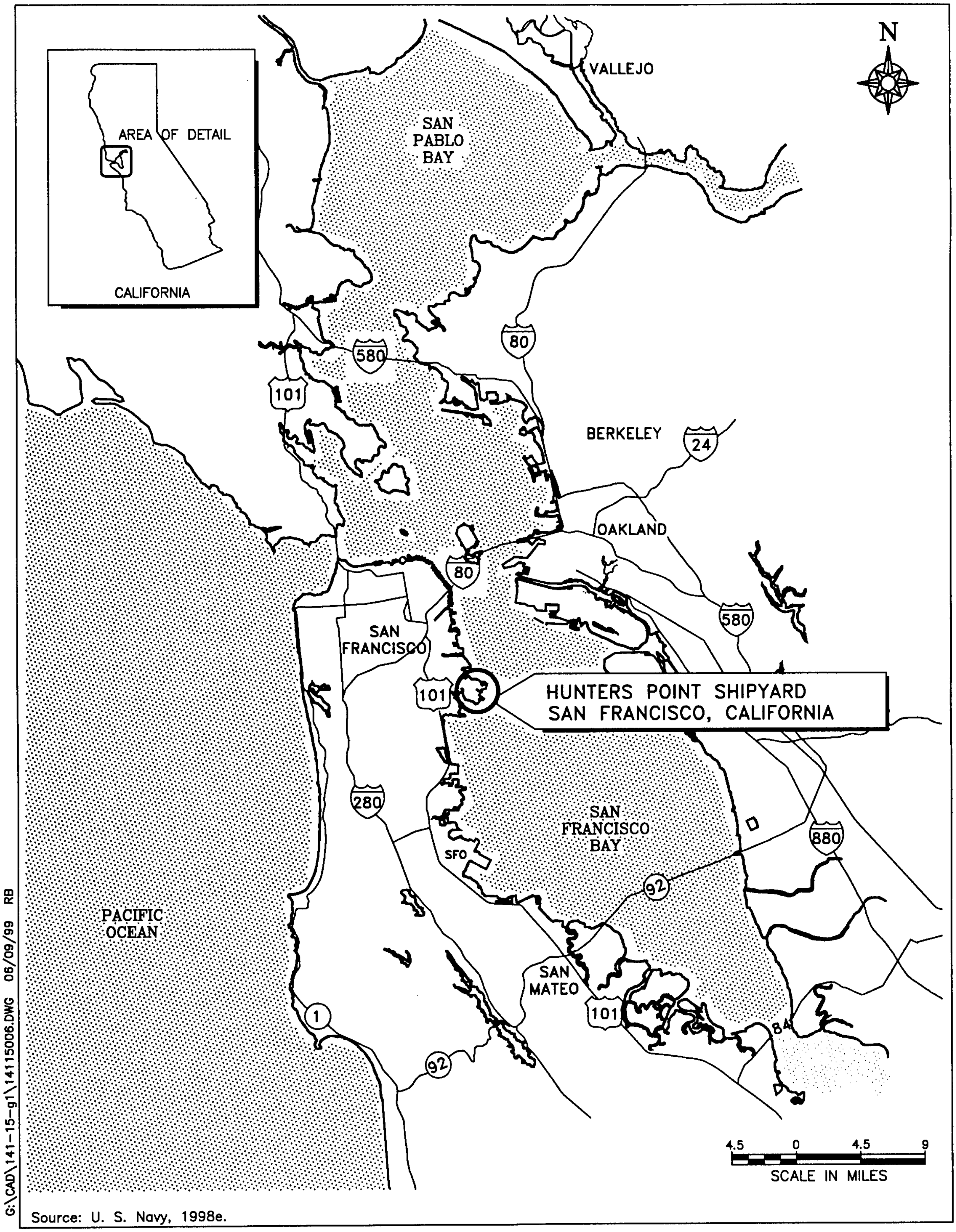
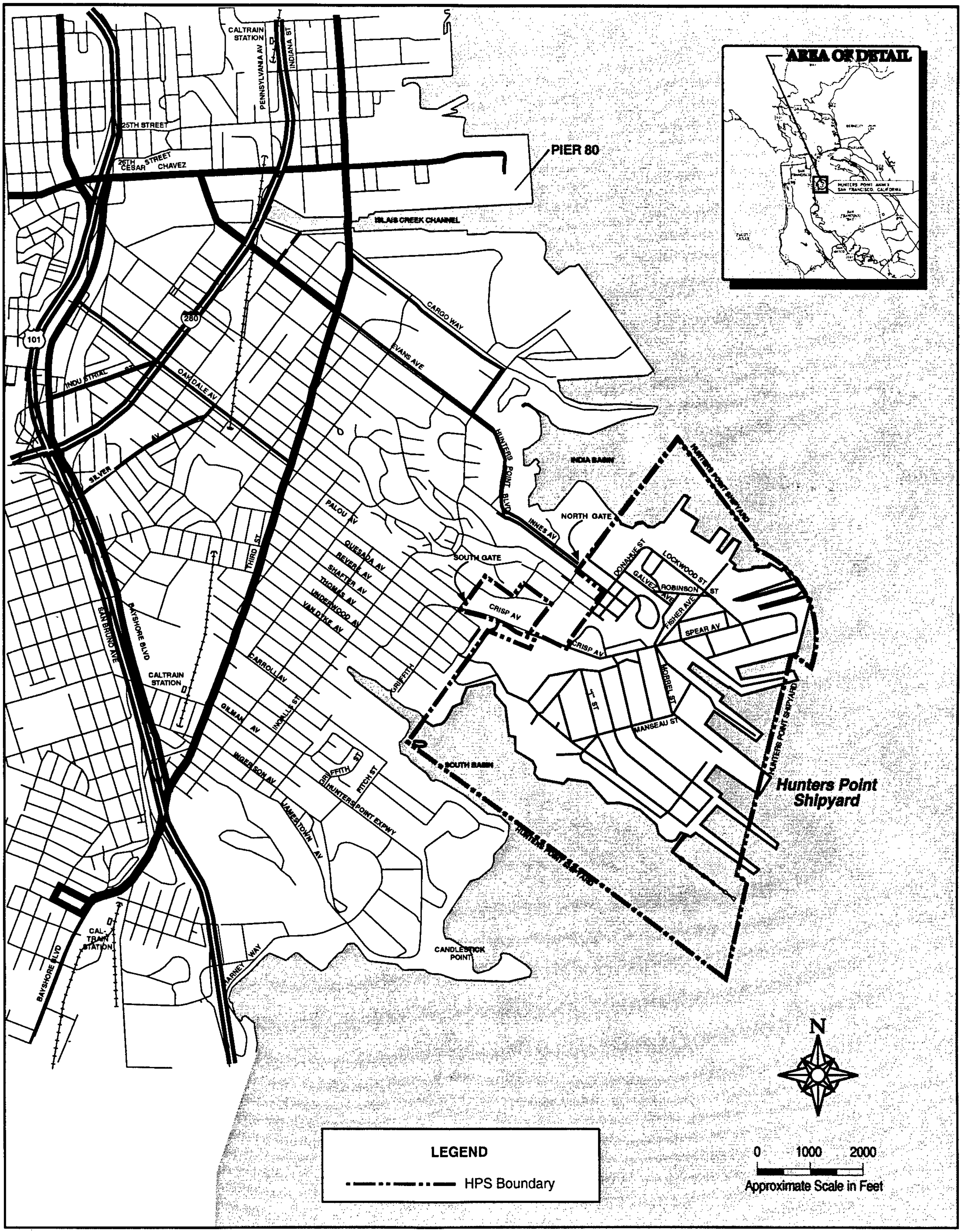


Figure 1.2-1: Area Map of Hunters Point Shipyard



Prod.:/141-15 HP EIP/HPFigs98/141-15 fsm new.fh7 6/9/99 JL

Figure 1.2-2: Hunters Point Shipyard

During World War II, the shipyard was one of the single largest employers in San Francisco, with nearly 17,000 employees. Ship repair activities from 1939 to the 1950s, with the resulting employment, transformed the Bayview-Hunters Point community from a semi-rural to an urban area. In 1974, the shipyard was deactivated. From 1976 to 1986, Navy leased the property to Triple A Machine Shop for ship repair activities. Triple A, in turn, subleased to small businesses, artisans, and others. Under Congressional legislation, many of Triple A's tenants subsequently acquired leases with Navy.

During the period of 1986 to 1990, Navy docked and repaired several Navy ships at the shipyard. In 1990, the shipyard came under the jurisdiction of Naval Station Treasure Island and was redesignated Hunters Point Annex (U.S. Navy, 1996c). In 1994, jurisdiction over Hunters Point Annex was transferred to Naval Facilities Engineering Command, Engineering Field Activity, West (EFA West), San Bruno, California; at that point, the property became known as HPS. The facility is currently in caretaker status.

1.3 DOCUMENT ORGANIZATION

This Final EIS consists of two volumes. Volume 1 contains the main text and appendices, and Volume 2 contains the responses to public comments. The organization and contents of these volumes are described below.

Volume 1, Main Text and Appendices

Chapter 1, Purpose and Need: A discussion of project purpose and need, intended to provide the reader with an overview of the reasons for disposal and reuse of HPS, including a description of the public involvement process used to solicit input on potentially significant environmental impacts.

Chapter 2, Alternatives, Including the Proposed Action: A description of the proposed action (disposal of HPS and community reuse pursuant to the Proposed Reuse Plan) and alternatives to that action, including a table that summarizes the significant impacts and mitigations in the document.

Chapter 3, Affected Environment: A description of the baseline environmental setting in which the transfer and commencement of reuse will occur.

Chapter 4, Environmental Consequences: An analysis of the environmental impacts of Navy disposal, the community reuse alternatives, and the No Action Alternative. This chapter also identifies mitigation measures that would reduce or eliminate effects found to be significant under any of the alternatives.

Chapter 5, Other Considerations: Cumulative impacts; identification of unavoidable adverse impacts on the environment; irreversible and irretrievable commitments of resources; short-term uses and long-term productivity; and issues related to environmental justice and the protection of children from environmental health risks and safety risks.

Chapters 6 through 9: Background information, including consultations with interested and responsible agencies, list of preparers, references, glossary, and EIS distribution list.

Lastly, appendices provide factual support for much of the analysis contained in the main body of the EIS. Additional supporting materials are referenced and are available for review at various locations. These locations include the project case files at the San Francisco Planning Department and the San Francisco Redevelopment Agency, as well as Navy's Installation Restoration Program (IRP) information repository in the Hunters Point neighborhood at the San Francisco Public Library, Anna E. Waden Branch, 5075 Third Street and at the Main Library at Larken and Grove Streets.

Volume 2, Response to Comments

This volume contains responses to comments by Federal, state, and local agencies; public interest groups; one individual; and commentors at the two public hearings on the *Revised* Draft EIS/EIR.

1.4 PUBLIC INVOLVEMENT PROCESS

1.4.1 Scoping Process

Scoping is the process used to identify potential significant environmental issues related to the proposed action. The scoping period was from June 27, 1995 to July 31, 1995.

As part of the scoping process, a Notice of Intent/Notice of Preparation (NOI/NOP) was published on June 28, 1995, in the Federal Register and the *San Francisco Chronicle* to inform the public of the preparation of a Draft EIS/EIR (Appendix A). Interested Federal, state, and local agencies; organized groups; and private individuals were mailed information concerning the scope of the Draft EIS/EIR.

A public scoping meeting was held on July 12, 1995 at the Southeast Community Facility located in the Bayview-Hunters Point neighborhood of the City. Approximately 30 individuals attended. The NOI/NOP announcements encouraged written comments from those unable to attend the scoping meeting.

1.4.2 Summary of Scoping Issues

During the EIS/EIR scoping period, 21 written and 8 verbal comments were received from government agencies, organizations, and the public. These comments are summarized below and available for review in the administrative record at EFA West in San Bruno, California. The portions of this document that address these comments are indicated.

Transportation: The Metropolitan Transportation Commission (MTC) requested that the EIS/EIR identify the assumptions and methodology used for the traffic and transportation impact analysis. See Section 3.1 and Appendix B.

Air Quality: The U.S. Environmental Protection Agency (U.S. EPA) requested that the EIS/EIR address air quality issues. See Section 3.2.

Land Use: The San Francisco Bay Conservation and Development Commission (BCDC) commented that remediation and planning activities must be consistent with the California Coastal Commission's Coastal Zone Management Program. The San Francisco Recreation and Parks Department expressed concern that the open space components of the project should adhere to local plans and national standards, be adequately funded, and consider existing contamination and ongoing remediation activities. See Section 3.4.

Hazardous Materials: The U.S. EPA requested that the EIS/EIR identify the hazardous materials storage, disposal, and contamination history at HPS. See Section 3.7.

Water Quality and Wetlands: The BCDC maintained that the project should adhere to state and regional water quality and wetlands policies, recommendations, and decisions. See Sections 3.9 and 3.13.

Utilities and Public Services: The U.S. EPA requested that the EIS/EIR include a survey of landfill capacity available to accommodate HPS; discuss pollution prevention and energy conservation; and analyze the adequacy of existing police, fire, ambulance, hospital, and health care services for the Hunters Point community. See Sections 3.10, 3.11, and 4.11.

Biological Resources: The U.S. EPA requested that all appropriate Federal and state agencies be consulted in determining the range of plant and animal species that could be affected by the action. Other commentors expressed concern over species living at HPS and supplied lists of species observed at HPS. See Section 3.13.

Public Participation: One commentor suggested additional review by the public prior to issuing the Draft EIS/EIR. Actions to involve the public in the EIS/EIR process at HPS have included the following:

- Notifying and requesting comments from a range of neighborhood associations and minority organizations that may be affected by, or be interested in, the proposed action.
- Coordinating media coverage and press releases.

1.4.3 Public Review Process for the Draft EIS/EIR

The Draft EIS/EIR was published for agency and public review on November 14, 1997. The Notice of Availability (NOA) was published in the Federal Register on November 21, 1997. Navy held a public hearing on December 10, 1997. The hearing was advertised in the *San Francisco Chronicle* and *San Francisco Examiner* on November 30 and December 1, 1997. The City held three public hearings on December 11, 1997 and January 13 and 15, 1998. Substantial written and verbal comments were received by the end of the comment period on January 20, 1998. Public and agency comments focused on issues related to hazardous waste and existing contamination at HPS, ongoing contaminant remediation activities, and potential cumulative impacts related to traffic and air quality. As a result of public testimony, Navy, the City, and the San Francisco Redevelopment Agency prepared and circulated the *Revised* Draft EIS/EIR in November 1998. Comments received on the November 1997 Draft EIS/EIR and additional information and analysis that had become available were considered during the development of the *Revised* Draft EIS/EIR. Because the *Revised* Draft EIS/EIR was made available for public comment, the comments on the November 1997 Draft EIS/EIR were not responded to individually.

1.4.4 Public Review Process for the *Revised* Draft EIS/EIR

The *Revised* Draft EIS/EIR was published for agency and public review on November 3, 1998. An NOA was published in the Federal Register on November 6, 1998. Public notices were mailed to those on the mailing list, and a Notice of Completion was filed with the Governor's Office of Planning and Research State Clearing House on November 2, 1998.

NEPA and CEQA require a public comment period of 45 days; because the public comment period extended over the Thanksgiving–New Year's holiday season, Navy and the City scheduled the public comment period to last 60 days, ending on January 5, 1999.

Two public hearings were held during the public comment period for the formal hearing of comments and receipt of written comments on the *Revised* Draft EIS/EIR. The first hearing was held at HPS on December 9, 1998. The second hearing was held jointly by the San Francisco Planning Commission and the San Francisco Redevelopment Agency Commission in downtown San Francisco on December 17, 1998. Newspaper advertisements for the public hearings were published in the *San Francisco*

Chronicle and *San Francisco Examiner* (November 30 and December 1, 1998), *The Independent* (December 1 and December 5, 1998), and the *San Francisco Bay View* (December 2, 1998). Copies of the NOA, mailing list, Notice of Completion, and newspaper advertisement are provided in Appendix A.

In response to oral comments at the public hearings, the Redevelopment Agency Commissioners and the Planning Department Commissioners extended the public comment period on the EIR an additional 14 days (to January 19, 1999) at the second public hearing on December 17, 1998. Public and agency comments focused on issues related to hazardous waste and existing contamination at HPS, ongoing contaminant remediation activities, traffic and air quality impacts, potential storm water and wastewater impacts on San Francisco Bay, and environmental justice issues.

Following the close of the public comment period on the *Revised* Draft EIS/EIR, Navy and the City decided to prepare separate final documents.

Final EIS

The Final EIS, incorporating and responding to comments received on the *Revised* Draft EIS/EIR, is furnished to persons on the distribution list, provided in Chapter 9, and to others requesting a copy. An NOA of the Final EIS was published in the Federal Register and in public notices and press releases.

As required under NEPA, there will be a 30-day comment period after the publication of the Final EIS. After the 30-day comment period, the Navy will issue a NEPA Record of Decision (ROD).

Comments on the Final EIS can be sent to the following address:

Southwest Division
BRAC Operations Office
1220 Pacific Highway
San Diego, CA 92132-5190
Attn: Melanie Ault
Phone: (619) 532-0954
Fax: (619) 532-0950

1.5 RELATED STUDIES

Several other project-related studies have been or are being undertaken in conjunction with ongoing activities at HPS. The major planning and restoration programs are summarized below, including the Environmental Baseline Survey (EBS), IRP, and BRAC Cleanup Plan (BCP).

Known areas of contamination have been identified in the EBS for HPS (U.S. Navy, 1996c, revised 1998e). Two major environmental restoration programs (IRP and the Compliance Program) have been established in response to releases of hazardous substances, pollutants, contaminants, petroleum hydrocarbons, and hazardous and solid waste. The IRP identifies, assesses, characterizes, and cleans up or controls contaminants from past hazardous waste disposal operations and hazardous materials spills. The Compliance Program addresses underground storage tanks, aboveground storage tanks, asbestos-containing materials, polychlorinated byphenyls, radiation, and lead-based paint. Under the IRP, HPS was divided into six parcels, with each parcel treated as separate unit. A Remedial Investigation (RI) report has been prepared for each parcel (U.S. Navy 1995d, 1996e, 1996f, 1997d, 1997h). The RIs describe past and current land use and hazardous substance/waste management practices. Navy has prepared a BCP (U.S. Navy, 1995a, 1996a, and 1997c), which provides information concerning the status of, and strategies for, the cleanup of HPS.

1.6 COMMUNITY REUSE PLANNING PROCESS

The Proposed Reuse Plan and the reuse planning process are described in detail in the *Land Use Alternatives and Proposed Draft Plan, Hunters Point Shipyard* (City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, 1997a). This plan was prepared by the San Francisco Office of Military Base Conversion, the San Francisco Planning Department, and the San Francisco Redevelopment Agency. The reuse planning team also included San Francisco's Department of Public Works and Department of Public Health, the Port of San Francisco, the Municipal Railway (MUNI), consultants, and representatives of the Mayor's Citizens Advisory Committee (CAC). Representatives of these groups met over a period of three years to develop land use plan alternatives for the reuse of HPS.

The process for selecting a land use plan began with a series of CAC meetings to develop approaches, guidelines, and goals for reuse of HPS. These meetings were open to the public and held in the Bayview-Hunters Point neighborhood adjacent to HPS. Following these meetings, a day-long, CAC-sponsored conference on the future of HPS was held in February 1994. The conference brought together over 250 community members, consultants, and City staff. This conference resulted in adoption of the following guidelines for developing preliminary reuse alternatives:

- Create jobs for economic vitality, giving priority to the South Bayshore community and to supporting training and educational programs.

- Support the existing businesses and artists' community; expand to accommodate the full range of arts and culture.
- Create diverse new businesses to stimulate the economy of San Francisco and nearby South Bayshore neighborhoods.
- Balance development and environmental conservation.
- Support immediate access for appropriate transitional uses that do not deter long-term development.
- Integrate new land uses into current plans for the Bayview area to provide for open space, affordable housing, and traffic circulation, and to minimize conflicts with industrial uses.
- Acknowledge the history of the site.

The February 1994 CAC workshop also developed six Community Land Use Concepts, representing the earliest stage in the development of land use alternatives. These six concepts had some common themes, including downplaying maritime and heavy industrial uses; emphasizing job creation; focusing on light industrial and local business opportunities; providing mixed-use areas with entertainment and arts/cultural activities; developing housing on the hill area; providing education and training; and creating a link between light industrial and cultural uses.

Over the next four months, additional CAC meetings were held, and the six Community Land Use Concepts were refined to four preliminary alternatives, based on the previously developed guidelines and common themes. The four preliminary alternatives all included a list of potential land uses aimed at creating jobs and business opportunities. However, each alternative had a different dominant land use. The four preliminary alternatives were:

- *Education and Arts:* Emphasized the existing artists' community, education, and job training centers.
- *Industrial:* Focused on providing opportunities for heavy industrial uses, including space for large, single-use tenants.
- *Maritime:* Returned HPS to its traditional use and identity.
- *Residential:* Emphasized housing development.

Another public workshop was held in June 1994. During this workshop, the CAC selected the Education and Arts preliminary alternative for further consideration; the remaining preliminary alternatives were eliminated from further consideration (City and County of San Francisco, Planning Department, and the San Francisco

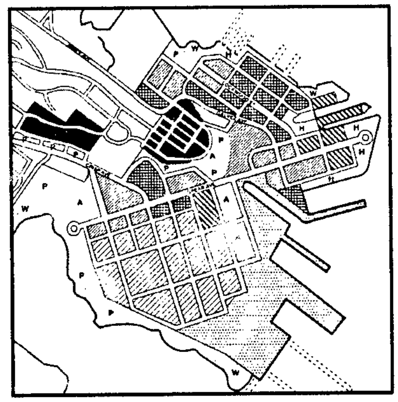
Redevelopment Agency, 1997a). The choice of the Education and Arts preliminary alternative was based on the original goals/guidelines established for developing the reuse alternatives. The planning team began a process of designing three preliminary plans, all centered on Education and Arts, but focusing on different land use patterns. The three plans were called "Independent Land Use Zones," "Main Street Vitality," and "Places of Distinction."

The three plans were evaluated through focus groups and workshops attended by CAC members, artist tenants from HPS, leaders of Bayview-Hunters Point educational and cultural organizations, recreational facility managers, private developers, HPS tenant businesses, facility planners for high-tech companies, and organizers of Fort Mason and the Yerba Buena Center for the Arts. The evaluation process led to the development of the *Land Use Alternatives and Proposed Draft Plan, Hunters Point Shipyard* (City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, 1997a). This document, referred to as the Proposed Reuse Plan, and the reuse planning process were discussed at public hearings. These hearings were held by the CAC, the San Francisco Planning Commission, the San Francisco Redevelopment Agency Commission, and the Base Closure Committee of the San Francisco Board of Supervisors during March and April 1995. The Proposed Reuse Plan was formally endorsed by each body following its public hearing.

In July 1997, the *Hunters Point Shipyard Redevelopment Plan*, which implements the Proposed Reuse Plan, was adopted by the San Francisco Board of Supervisors (Ordinance No. 285-97). A companion *Design for Development* (City and County of San Francisco Planning Department and the San Francisco Redevelopment Agency, 1997c), containing development controls and standards, was later adopted by the San Francisco Redevelopment Agency Commission. These documents are implementing tools, intended to facilitate redevelopment of HPS in a manner that is consistent with the Proposed Reuse Plan.

This page intentionally left blank.

2 Alternatives, Including the Proposed Action



CHAPTER 2: ALTERNATIVES, INCLUDING THE PROPOSED ACTION

CONTENTS

PAGE

2. ALTERNATIVES, INCLUDING THE PROPOSED ACTION 2-1

2.1 Introduction 2-1

2.2 Disposal Alternatives 2-1

2.3 Development of the Community Reuse Alternatives 2-1

2.4 Reuse Alternatives Considered But Eliminated 2-2

2.5 Description of Community Reuse Alternatives 2-4

2.6 No Action Alternative 2-10

2.7 Environmentally Preferable Alternative 2-11

2.8 Comparison of Alternatives 2-11

2. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.1 INTRODUCTION

This chapter describes alternatives for the proposed action and considers Department of the Navy (Navy) disposal alternatives and the City and County of San Francisco (City) reuse alternatives. The National Environmental Policy Act (NEPA) requires that an Environmental Impact Statement (EIS) objectively evaluate a "reasonable" range of alternatives. Under NEPA, reasonable alternatives are those that are practical or feasible from a technical and economic perspective, and based on common sense (46 Federal Register [Fed. Reg.] 18026, as amended, 51 Fed. Reg. 15618).

The chapter is organized into eight subsections. Section 2.2 discusses Navy disposal alternatives. Section 2.3 describes the development of reuse alternatives by the City. Section 2.4 discusses alternatives eliminated from review and the reasons for their elimination. Section 2.5 provides detailed descriptions of the reuse alternatives evaluated in this EIS. Section 2.6 describes Navy's No Action Alternative. Section 2.7 describes the environmentally preferable alternative. Section 2.8 provides a summary comparison of the potential impacts and corresponding mitigation for each alternative.

2.2 DISPOSAL ALTERNATIVES

Navy can either retain Hunters Point Shipyard (HPS) excess real and related personal property in Federal ownership (No Action Alternative) or dispose of the property for subsequent reuse (Disposal Alternative). The description of retaining HPS in Federal ownership is included in the No Action Alternative (Section 2.6).

Navy disposal is the Federal action evaluated to determine potential environmental impacts associated with disposal of Navy property from Federal ownership. Under this proposal, approximately 943 acres of real property would be disposed of. Navy disposal is assumed as part of each reuse alternative.

2.3 DEVELOPMENT OF THE COMMUNITY REUSE ALTERNATIVES

In 1993, the Mayor's Hunters Point Shipyard Citizens Advisory Committee (CAC) convened to formulate goals and preferred uses for HPS. This committee was made up of citizen groups and governmental agencies. In February 1994, planning guidelines for reuse of HPS were adopted after an intensive conference and public workshop. These guidelines included the following principles: 1) create jobs for economic vitality; 2) support existing businesses and artists' community; 3) create appropriate mix of new business; 4) balance development and environmental conservation; 5) facilitate appropriate immediate access; 6) integrate land uses; and 7) acknowledge the history of the area.

The City has been working jointly with the community on a focused effort to develop and evaluate land use alternatives for the reuse of HPS since early 1994. Through the planning process, a wide range of land use alternatives were identified and evaluated. As described in Section 1.6, six Community Land Use concepts were evaluated and subsequently refined into four preliminary alternatives. These concepts were then evaluated against the planning objectives. The CAC, at a public workshop in June 1994, selected the Education and Arts Alternative (City Redevelopment Plan) based on the following factors:

- The alternative would present a strong new identity for HPS.
- It would create a very positive image for both the site itself and for the Bayview-Hunters Point community.
- The land uses proposed would provide jobs for people at all educational levels and in many different types of businesses.
- The variety of spaces and uses proposed could provide the setting for a diversity of entrepreneurial activities.

The Proposed Reuse Plan is described in Section 2.5 (Alternative 1), along with another reuse scenario, the Reduced Development Alternative (Alternative 2). This EIS evaluates both alternatives at an equal level of detail in Chapter 4, as required by NEPA.

2.4 REUSE ALTERNATIVES CONSIDERED BUT ELIMINATED

In determining the scope of alternatives to be considered under NEPA, the emphasis is on what is "reasonable." Reasonable alternatives include those that are practical or feasible from a technical and economic standpoint (46 Fed. Reg. 18026, March 23, 1981, as amended, 51 Fed. Reg. 15618, April 25, 1986). An alternative can also be eliminated from further consideration if it does not meet the specific criteria used to select an action.

Navy used the City's redevelopment planning process as the basis for determining reasonable alternatives to evaluate in this EIS. As discussed previously, six land use concepts were evaluated and refined into four preliminary alternatives. One of these preliminary alternatives was selected as the preferred alternative and developed into the Proposed Reuse Plan (Section 2.3). A description of the three preliminary alternatives eliminated from analysis in this EIS and the rationale for their elimination is provided below.

Preliminary Industrial Alternative. The Industrial Alternative focused on providing opportunities for heavy industrial uses, including space for large, single-use tenants. Under this alternative, artists' studios would remain scattered throughout the entire site, and the other uses—rehabilitated historic buildings, housing and the job training center—would be relatively isolated from the site's primary industrial activity. This alternative would also provide a strong new identity for the site, one related to enhanced employment opportunities for the Bayview-Hunters Point community, San Francisco, and the Bay Area.

The CAC rejected the Industrial Alternative because the industrial uses it proposed would not provide as many opportunities for professional, managerial, and entrepreneurial job growth as the Education and Arts Alternative. The CAC identified the following specific disadvantages of this alternative:

- With primarily industrial uses, HPS would be somewhat isolated from the surrounding Bayview-Hunters Point community.
- This alternative would generate the most additional truck traffic, thereby having a potentially serious negative impact on nearby Bayview-Hunters Point streets. The amount of space available for educational, training, and other non-industrial uses would be limited under this alternative, and these uses could be compromised by their proximity to heavy industry.
- Because market forecasts do not predict that the industrial space proposed under this alternative would be needed in the 20-year period of site development, an industrial reserve would have to be created for future use.
- An emphasis on one type of land use, industry, would mean less job diversity.

Preliminary Maritime Alternative. The Maritime Alternative would have returned HPS to its traditional use and identity. Maritime uses on the site would allow new development to make use of extensive built and natural resources for ship building, repair, and cargo handling. The City's present Master Plan has identified as policy the reestablishment of HPS as a major source of maritime employment and activity. However, the community viewed the Maritime Alternative as too narrow in scope to provide economically viable and appropriate employment opportunities for Bayview-Hunters Point residents.

The CAC identified the following specific disadvantages of this alternative:

- The City's maritime economy is not growing.
- This alternative would not provide enough flexibility for attracting the diverse range of business required for maximum employment opportunities.

Preliminary Residential Alternative. This alternative emphasized housing development. There is significant residential development in the Bayview-Hunters Point community surrounding much of HPS. Residential development on the site would extend these neighborhoods across the site. The City's Master Plan strongly encourages the provision of affordable housing. The CAC indicated that the Residential Alternative would provide too few job opportunities, generate more transportation demand than was projected as feasible for residents and workers traveling to and from HPS, and build into the plan potential future conflicts with job-producing uses. In addition, the community did not identify housing as a primary goal.

The CAC identified the following specific disadvantages of this alternative:

- The alternative would provide the fewest jobs among the alternatives, and the types of jobs would not be as varied as those provided under other alternatives. Although there would be some employment opportunities while housing is being built, this alternative would provide relatively fewer permanent jobs.
- This alternative would require very careful targeting of industrial and business park development to maximize the number of jobs at HPS.

Although not identified by the CAC, it is general planning practice not to locate residential land uses at former industrial sites. Residential land use is one of the more sensitive types of land use because of 24-hour occupation and the presence of children and the elderly.

2.5 DESCRIPTION OF COMMUNITY REUSE ALTERNATIVES

This section presents a detailed description of the two reuse alternatives: Alternative 1, the Proposed Reuse Plan, and Alternative 2, the Reduced Development Alternative. The alternatives are broad conceptual plans for developing the 943-acre reuse plan area in a variety of residential, commercial, industrial, and recreational uses over about a 25-year period. As such, both alternatives allow for a range of different types of intensity of development.

Land Use Categories

Both reuse alternatives are mixed land-use development plans. Both alternatives include reusing buildings at HPS. The land use categories in these plans are listed below.

Industrial: Could include manufacturing, sales, and distribution businesses that provide medicinal and botanical products, biological products, food products, chemical and allied products, primary and fabricated metals, and electrical/electronic equipment and parts. Could also include wholesale services, auto-related services, trucking and courier services, equipment leasing, printing and publishing, warehousing and distribution, airport-related ground transportation services, artist and artisan studios, and motion picture production.

Maritime Industrial: Could include wharves and drydocks for overhauling vessels, storage areas, offices, rail and truck facilities, container freight stations, intermodal container transfer facilities, areas for maintenance of containers or container-handling equipment, and other functions necessary to the efficient operation of a terminal. Maritime use at HPS could be combined with industrial use.

Research and Development: Could include manufacturing, sales, and distribution businesses that provide surgical and medical appliances and supplies, ophthalmic goods, x-ray apparatus and tubes, diagnostic substances, electromedical equipment, and precision instruments. Could also include data processing, telecommunications, artist and artisan studios, and live/work spaces.

Education and Cultural: Could include education and training facilities, museums, theaters, galleries, specialty retail shops, restaurants, artist studios, and conference facilities.

Residential: Could include apartments and one- to two-family dwelling units, houses in the hillside area (Hunters Point Hill), and apartments over commercial units in mixed-use areas (see below). The hillside residential area could be designated for commercial uses serving the neighborhoods.

Mixed Use: Could include artist studios, live/work units (units located in mixed-use areas that serve as both a workplace and living space), recording studios, hotel/conference facilities, retail buildings, galleries, engineering research and development facilities, small education and health services, small warehousing and distribution facilities, business and arts services, real estate and insurance services, local-serving retail, and restaurants.

Open Space: Could include passive open space (such as gardens), active open space (such as athletic fields), hard surfaces (such as plazas and promenades), wetlands, and ancillary commercial uses.

Distribution of Proposed Land Uses

Land uses under both community reuse alternatives would be arranged as illustrated on Figure 2.5-1. In general, the south-central portion of the property would contain about 96 acres (39 hectares [ha]) of industrial uses. To the east of the industrial use area, 85 acres (34 ha) are proposed for maritime industrial land uses. To the north and east of

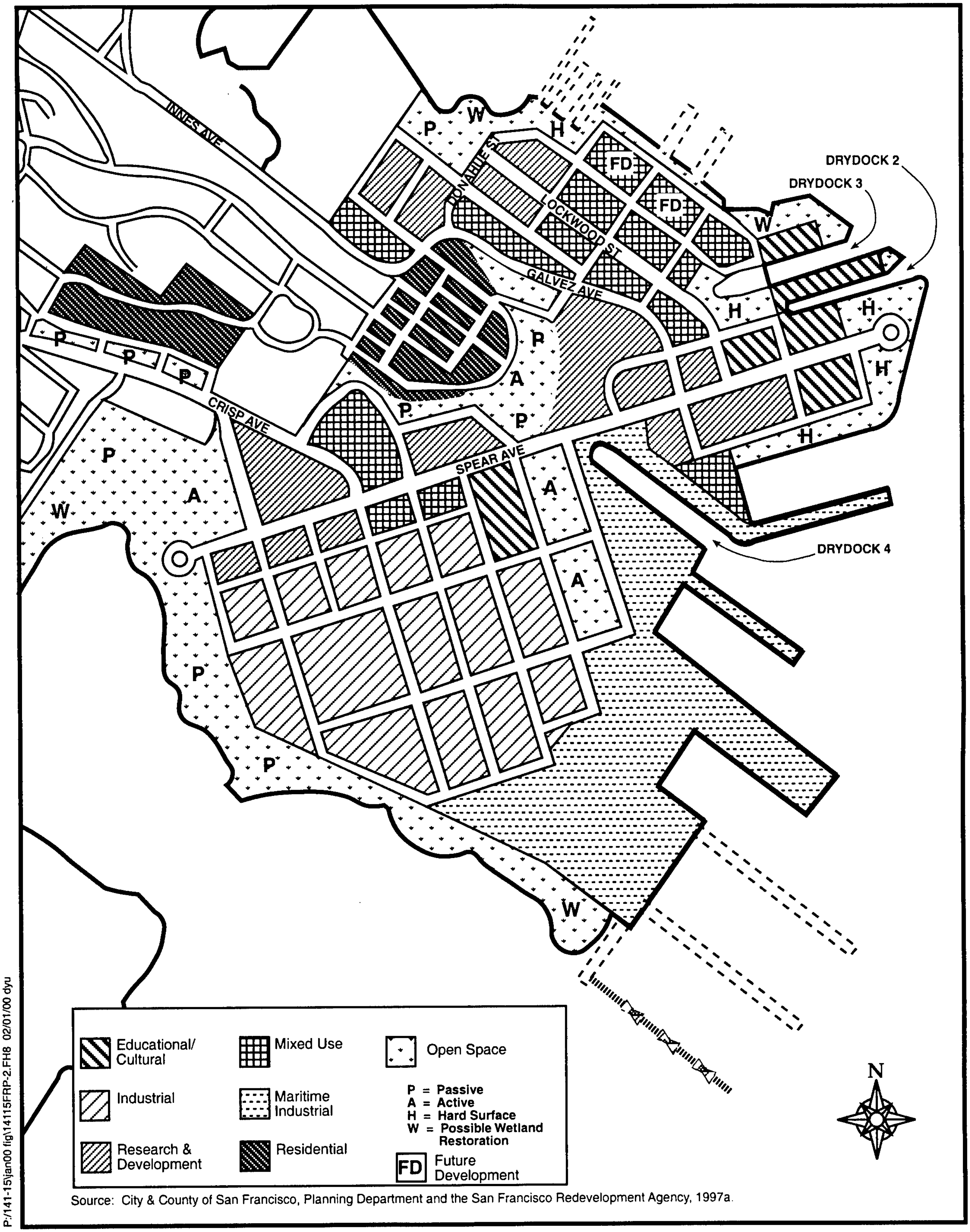


Figure 2.5-1: Distribution of Proposed Land Uses

the industrial area, 70 acres (28 ha) are proposed for research and development uses. Interspersed with the research and development uses are 55 acres (22 ha) of mixed-use development, including artist studios, live/work units, and retail commercial, and 25 acres (10 ha) of education and cultural uses. To the northwest of the industrial use designation, about 38 acres (15 ha) are proposed for residential development, which would include 1,300 units of housing (apartments, single-family units, and duplexes). To the west and along most of the waterfront (except for the shoreline area designated for maritime industrial uses), about 124 acres (50 ha) are proposed for open space uses.

Development Densities

Development under either of the community reuse alternatives would follow the controls, development standards, and urban design guidelines contained in the *Design for Development* (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1997c), adopted by the San Francisco Redevelopment Agency and Planning Commission in August 1997.

Among these controls is a limitation on dwelling unit density and maximum floor-area ratio (FAR) (i.e., the ratio between the total floor area [for all floors] of a building to the area of the lot on which it is constructed) for non-residential uses. The greatest residential density would be permitted at the highest portion of the site and would be 73 dwelling units per acre (0.4 ha). Other residential areas could be developed at a density of 29 or 54 units per acre (0.4 ha). Allowable building heights, open space requirements, and other design factors would additionally limit residential densities, and density bonuses of up to 15 percent could be achieved by providing additional low- or moderate-income housing. In general, mixed-use areas could be developed with a maximum density of 2:1 FAR, with other (non-residential) areas of the site limited to between 1:1 and 0.5:1 FAR.

While these allowable densities could permit substantial development, this EIS analyzes only the maximum development that is reasonably foreseeable given characteristics of HPS and market (economic) conditions.

Development Standards

The *Design for Development* contains quantitative limitations on height and bulk and standards for site coverage, maximum off-street parking, off-street loading, and usable open space for dwelling units. More qualitative design guidelines provide further concepts and standards to shape future development within HPS areas identified as the "Hill Housing Area," "Lockwood Landing District," and "Industrial/Research & Development District." The *Design for Development* also illustrates urban design concepts, including those for open space areas, public streets, building placement, and massing. The development of HPS would be consistent with these standards.

Other Features of the Community Reuse Alternatives

Areas of HPS would be opened for public use and would include public access trails along the waterfront, including a possible link to the regional Bay Trail. Undeveloped open space along the southwestern edge of HPS would be opened to the public, and several open space areas would be set aside for development of wetlands. Parks are proposed along the bluff in the residential hill area, in the northern mixed-use area, and in the central industrial area.

Reuse of HPS would include substantial upgrades to utilities and infrastructure systems at HPS, including roadways; potable water, storm_water and wastewater conveyance systems; electrical, gas, and telephone systems; etc. Specific utility infrastructure and transportation network upgrades are described below.

Utility Infrastructure

Infrastructure upgrades and/or improvements are included in both the Proposed Reuse Plan and the Reduced Development Alternative. Planned infrastructure improvements include upgrades to the following systems:

- Irrigation systems
- Electrical and lighting systems
- Auxiliary water supply systems and other fire protection work
- Gas mains and electrical transmission lines
- Sewer and storm water systems
- Streets, median islands, sidewalks, gutters, and traffic signing

Future Transportation Network

Both reuse alternatives include the following transportation improvements:

- The HPS street grid system would be established to maximize the use of existing HPS streets and access points.
- HPS streets would be resurfaced and lanes clearly marked.
- Stop signs would be installed at proposed intersections throughout HPS at locations that currently have through traffic.
- Crisp Avenue would become a through arterial street, and the South Gate would be open to traffic.
- All HPS streets would contain sidewalks and some on-street parking.

- Truck routes would be designated within HPS.
- Pedestrian and bicycle facilities would be provided.
- Public transportation service into HPS would be extended/ expanded.
- All inactive railroad tracks within HPS would be removed.

Proposed Reuse Plan Alternative

The March 1995 *Land Use Alternatives and Proposed Draft Plan, Hunters Point Shipyard,* which was revised in January 1997, is the land use plan for HPS and provides the basis for the Proposed Reuse Plan alternative. (The 1995 *Draft Plan* and January 1997 correspondence amending the *Draft Plan* are available for review at the San Francisco Planning Department, 1660 Mission Street.) The amount of development activity expected under the Proposed Reuse Plan is based on a detailed market study and would result in about 6,400 new jobs by 2025 (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995). Table 2.5-1 provides a breakdown of the potential maximum gross square feet of development that would be reasonable to expect under the Proposed Reuse Plan in 2010 and 2025.

TABLE 2.5-1: LAND USE DEVELOPMENT FOR THE YEARS 2010 AND 2025 UNDER THE PROPOSED REUSE PLAN

LAND USE	POTENTIAL GROSS SQUARE FEET YEAR 2010	POTENTIAL GROSS SQUARE FEET YEAR 2025	APPROXIMATE ACRES YEAR 2025
Industrial	385,000	775,000	96
Maritime Industrial	175,000	360,000	85
Research & Development	65,000	312,000	70
Cultural/Education	335,000	555,600	25
Mixed Use	570,000	1,150,000	55
Live/Work (in Mixed Use Areas) (Note 1)	300,000 (300 units)	500,000 (500 units)	(Note 2)
Residential (Notes 1 and 3)	1,300,000 (1,300 units)	1,300,000 (1,300 units)	38
Open Space	NA	NA	124

Source: City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995, and the San Francisco Redevelopment Agency, 1998a.

Notes:

(1) Residential units and live/work units are assumed to average 1,000 square feet per unit. The numbers of units are rounded.

(2) Live/work units are included in "Mixed Use," so there is no separate acreage for live/work.

(3) Under the Proposed Reuse Plan for both 2010 and 2025, residential units include 800 single family and duplex dwelling units and 500 apartments over commercial space.

NA Not Applicable

Reduced Development Alternative

The Reduced Development Alternative has the same objectives and includes the same land uses and areas as those in the Proposed Reuse Plan, but with development reduced in scale. Development within each land use type would be less intensive and would consist of smaller or fewer buildings. This alternative would result in the potential creation of up to 2,700 jobs by 2025. Table 2.5-2 provides an estimated breakdown of potential gross square footage of development in both 2010 and 2025 under the Reduced Development Alternative. This alternative would include development controls or limitations to ensure that reuse remains at the reduced levels shown in Table 2.5-2. It would allow for more deliberate selection of new users and staged implementation of proposed infrastructure improvements.

TABLE 2.5-2: LAND USE DEVELOPMENT FOR THE YEARS 2010 AND 2025 UNDER THE REDUCED DEVELOPMENT ALTERNATIVE

LAND USE	POTENTIAL GROSS SQUARE FEET YEAR 2010	POTENTIAL GROSS SQUARE FEET YEAR 2025	APPROXIMATE ACRES YEAR 2025
Industrial	192,000	377,000	96
Maritime Industrial	88,000	173,000	85
Research & Development	30,000	100,000	70
Cultural/Education	165,000	345,000	25
Mixed Use	130,000	300,000	55
Live/Work (in mixed-use areas) (Note 1)	65,000 (65 units)	100,000 (100 units)	(Note 2)
Residential (Note 1)	300,000 (300 units)	300,000 (300 units)	38
Open Space	NA	NA	124

Source: City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995 and the San Francisco Redevelopment Agency, 1998a.

Notes:

(1) Residential units and live/work units are assumed to average 1,000 square feet per unit. The number of units is rounded.

(2) Live/work units are included in "Mixed Use," so there is no separate acreage for live/work.

NA Not Applicable

2.6 NO ACTION ALTERNATIVE

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. Environmental cleanup would continue and be completed. No new leases would be entered into under the No

Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions.

Activities associated with Navy caretaker status would include the following:

- Inspecting and maintaining utility systems when necessary to protect public health, the environment, and public safety.
- Periodically maintaining the property, as necessary, to protect the structures from fires or nuisance conditions.
- Continuing security patrols to prevent unauthorized entry.
- Continuing land management programs, such as natural resource management, pest control, erosion control, and tree removal.
- Minimally maintaining roadways.
- Continuing Installation Restoration Program (IRP) and Compliance Program activities.

2.7 ENVIRONMENTALLY PREFERABLE ALTERNATIVE

NEPA requires that an environmentally preferable alternative be identified. The No Action Alternative would have no significant impacts and would be the environmentally preferable alternative. Although the No Action Alternative would result in continued caretaker activities and possibly continued lease operations, it would not allow the City to achieve its purpose of reusing Navy property to generate new jobs and increased revenue in the region; develop a variety of land uses, including mixed-income housing; preserve historic structures; improve infrastructure; and remove blight.

2.8 COMPARISON OF ALTERNATIVES

NEPA requires that an EIS present the impacts of each alternative in comparative form to define the issues and provide a clear basis for choice among options by decision-makers and the public. Table 2.8-1 summarizes the significant impacts and corresponding mitigation measures for implementation of each reuse alternative.

For purposes of Navy NEPA analysis, direct environmental consequences or impacts are those associated with Federal property disposal, and indirect impacts are associated with community reuse of the property. Navy cannot control reuse after the property is conveyed from Federal ownership. Therefore, implementation of mitigation measures for reuse-related environmental impacts would be the responsibility of the City (or a local reuse organization approved by the City) and not the responsibility of Navy. The City could choose to assign mitigation responsibility to a subsequent site developer.

TABLE 2.8-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATIONS

Resource Category	NAVY ACTIONS		CITY OF SAN FRANCISCO REUSE ALTERNATIVES	
	Disposal	No Action Alternative	Proposed Reuse Plan	Reduced Development Alternative
Transportation, Traffic, and Circulation	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	**Significant Unmitigable Impact** *Increased Traffic at Third Street/Cesar Chavez Street Intersection.* Operation of the signalized Third Street/Cesar Chavez Street intersection would worsen in the P.M. peak hour from LOS B to LOS F by 2010. The addition of project-rated traffic would contribute to long delays (i.e., over 60 seconds per vehicle) at this intersection. This is considered a significant impact. The following measures would reduce, but not eliminate, cumulative traffic congestion, which would remain significant. Adopt a Transportation Demand Management (TDM) approach. Form an HPS Transportation Management Association (TMA), which would develop and implement a Transportation System Management Plan (TSMP). The TSMP would include transit pass sales; transit, pedestrian, and bicycle information; employee transit subsidies; expanded transit services and monitoring of transit demand; secure bicycle parking; parking management guidelines; flexible work time/ telecommuting; shuttle service; monitoring of physical transportation improvements;, ferry service studies; and local hiring practices.	**Significant Unmitigable Impacts** Impact 1 is the same as under the Proposed Reuse Plan.
			Significant and Mitigable Impacts *Impact 1: Increased Traffic at Third Street/Evans Avenue Intersection.* Operation of the signalized Third Street/Evans Avenue intersection would worsen in both the A.M. and P.M. peak hours from LOS C to LOS F by 2010. The addition of project-related traffic would contribute to long delays (i.e., over 60 seconds/vehicle) at this intersection. This would be a significant impact. *Mitigation 1.* Eliminate the southbound left-turn lane and re-route turns via Phelps Street to Evans Street. Signalize the Phelps/Evans intersection and remove parking along Phelps and Evans Streets. In addition, adopt a TDM approach as described under the Significant Unmitigable Impact.	**Significant and Mitigable Impacts** This impact is less than significant under the Reduced Development Alternative. No mitigation is required.
			Impact 2: Increased Traffic at Evans Avenue/Cesar Chavez Street Intersection. Operation of the signalized Evans Avenue/Cesar Chavez Street intersection would worsen in the P.M. peak hour from LOS D to LOS E by 2025. The addition of project-related traffic would increase delays at this intersection from 39.4 seconds per vehicle to 43.0 seconds per vehicle. This would be a significant impact.	This impact is less than significant under the Reduced Development Alternative. No mitigation is required.

TABLE 2.8-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATIONS (CONTINUED)

Resource Category	NAVY ACTIONS		CITY OF SAN FRANCISCO REUSE ALTERNATIVES	
	Disposal	No Action Alternative	Proposed Reuse Plan	Reduced Development Alternative
Transportation, Traffic, and Circulation (continued)			*Mitigation 2.* Restripe the existing northbound shared left/right-turn lane on Evans Avenue to create an exclusive left-turn lane and an exclusive right-turn lane. Widen the Evans Avenue northbound approach at Cesar Chavez Street. The southeast corner curb return would require structural modifications to the existing viaduct. Change the existing signal timing plan to include the exclusive left-turn and right-turn lanes. In addition, adopt a TDM approach as described under the Significant Unmitigable Impact. *Impact 3: Increased Demand for Public Transportation Exceeding Planned or Anticipated Capacity.* Although transportation planning has been done for HPS in the *Hunters Point Shipyard Transportation Plan*, there are no formally adopted plans to provide transit service to HPS at this time. Therefore, the projected increase in demand for public transportation is a significant impact. . *Mitigation 3.* Form an HPS TMA and implement a TSMP, as described under the Significant Unmitigable Impact. *Impact 4: Increased Demand for Pedestrian and Bicycle Facilities Exceeding Planned or Anticipated Capacities.* Until facilities are constructed, increased pedestrian and bicycle activity may not be accommodated. *Mitigation 4.* Require planning and implementation of pedestrian and bicycle facilities as part of development. Monitor and ensure completion of these facilities as part of the TSMP described under the Significant Unmitigable Impact.	This impact is less than significant under the Reduced Development Alternative. This impact is less than significant under the Reduced Development Alternative. No mitigation is required.
Air Quality	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Noise	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	**Significant and Mitigable Impact** *Impact 1: On-site Traffic Noise (East of Donahue Street).* Properties within 100 feet (30 meter [m]) of the roadway centerline of Donahue Street would be exposed to Community Noise Equivalent Level (CNEL) above 65 dBA (A-weighted decibel scale) at build-out of the Proposed Reuse Plan in 2025. These noise levels would have a significant impact on residential properties proposed for development on the east side of Donahue Street.	**Significant and Mitigable Impact** Impact 1 is similar to that under the Proposed Reuse Alternative, except that CNELs are projected at 62 dBA in 2025.

TABLE 2.8-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATIONS (CONTINUED)

Resource Category	NAVY ACTIONS		CITY OF SAN FRANCISCO REUSE ALTERNATIVES	
	Disposal	**No Action Alternative**	**Proposed Reuse Plan**	**Reduced Development Alternative**
Noise (Continued)			*Mitigation 1.* To reduce noise impacts on proposed residential properties east of Donahue Street, orient and design new or renovated buildings such that future noise intrusion would be minimized to within acceptable levels. Physical barriers also could be constructed to reduce noise transmission to these residential areas.	Mitigation 1 is the same as under the Proposed Reuse Plan.
Land Use	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Visual Resources and Aesthetics	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Socioeconomics	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Hazardous Materials and Waste	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Geology and Soils	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	**Significant and Mitigable Impacts** *Impact 1: Seismic Hazards Associated with Older Buildings.* Unconsolidated sediments and fill materials underlying the site would be subject to liquefaction, densification, and differential settlement in the event of a sustained earthquake. These effects could damage or destroy older buildings that have not been adequately retrofitted. Seismic activity could increase risks to the public if the occupancy of older buildings is increased during reuse. *Mitigation 1.* Before increasing the occupancy of existing buildings, survey buildings that may be unsafe in the event of an earthquake, and take appropriate steps to prevent injury. These steps could include interior modifications, bracing, retrofits, and/or access restrictions. *Impact 2: Naturally Occurring Asbestos.* Because asbestos-containing serpentinite rock occurs at HPS, chrysotile asbestos could become airborne due to construction-related excavation activities. Even with implementation of existing regulations, there is a still a potentially significant risk to public health and safety.	**Significant and Mitigable Impacts** This impact and its mitigation are the same as under the Proposed Reuse Plan. This impact and its mitigation are the same as under the Proposed Reuse Plan.

TABLE 2.8-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATIONS (CONTINUED)

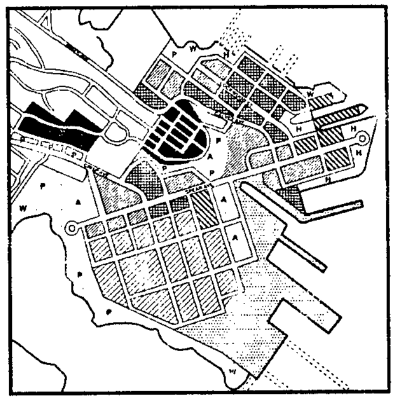
Resource Category	NAVY ACTIONS		CITY OF SAN FRANCISCO REUSE ALTERNATIVES	
	Disposal	No Action Alternative	Proposed Reuse Plan	Reduced Development Alternative
Geology and Soils (Continued)			*Mitigation 2.* Continuously wet serpentinite involved in excavation or drilling operations. Wet and cover stockpiled serpentinite. Cap serpentinite used as fill material with at least one foot (0.3 m) of clean non-serpentinite fill material, and implement institutional controls to prevent future exposure from excavation activities.	
Water Resources	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	**Significant and Mitigable Impact** *Impact 1: Discharges of Treated Combined Sewer Overflows.* Redeveloping HPS with a combined sewer system would increase combined sewer overflow (CSO) volumes on the Bayside by 4.5 percent and contribute to a potential cumulative Bayside increase of 11 percent. The cumulative increase in CSO volumes at outfalls in the Yosemite basin (38 percent) would have the potential to negatively affect beneficial uses at nearby Candlestick Point State Recreation Area if it would increase the number of days that water-contact recreation and other activities are prohibited. *Mitigation 1.* Eliminate projected increases in CSO volumes caused by storm water discharges to the City's combined system by upgrading or replacing the separated system at HPS or by adding substantial storage to a new combined sewer system. Also consider ways to offset nonsignificant increases attributable to sanitary flows. Arrange for the PUC to condition permits issued for groundwater discharge to the City's combined sewer system, so that discharges do not occur in wet weather when overflows are anticipated to occur.	**Significant and Mitigable Impact** This impact and its mitigation are the same as under the Proposed Reuse Plan.
Utilities	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Public Services	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.
Cultural Resources	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.

TABLE 2.8-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATIONS (CONTINUED)

Resource Category	NAVY ACTIONS		CITY OF SAN FRANCISCO REUSE ALTERNATIVES	
	Disposal	No Action Alternative	Proposed Reuse Plan	Reduced Development Alternative
Biological Resources	No significant impacts are expected; no mitigation measures are required.	No significant impacts are expected; no mitigation measures are required.	**Significant and Mitigable Impacts** *Impact 1: Increased Human Activity Near Sensitive Habitats.* The Proposed Reuse Plan would develop the Bay Trail along the HPS shoreline. This access would increase human and domestic animal activity along the HPS shoreline. The increased activity could reduce wetland habitat value for waterfowl and shorebirds and potentially cause inadvertent take of migratory bird individuals, nests, or eggs (in violation of the Migratory Bird Treaty Act of 1972). An increase in the number of people using these areas also could increase disturbances to sensitive wetland habitats, both directly from individuals going off-trail and indirectly from noise and movement. Similarly, an increase in uncontrolled domestic animal activity could directly impact wetland-dependent species by increasing loss from predation. *Mitigation 1.* Place barriers along the Bay side of trails to reduce human and domestic animal disturbances to sensitive wetland habitats. Design barriers so that wildlife cannot hear or see people from foraging areas and so that people cannot easily leave the trail to enter sensitive wildlife areas. Develop and implement a public access program to include fencing sensitive areas, posting signs, and imposing leash requirements to further reduce disturbance to wetland areas. *Impact 2: Increased Litter.* Developing the Bay Trail along the HPS shoreline would increase human activity along the shoreline and could increase the likelihood of litter. Litter blown or thrown into wetlands or the Bay would pose a choking and feeding hazard to aquatic wildlife and shorebirds. *Mitigation 2.* Provide adequate trash receptacles along public access areas. Ensure pick-up and trash receptacle maintenance on a regular basis.	**Significant and Mitigable Impacts** This impact and its mitigation are the same as under the Proposed Reuse Plan. This impact and its mitigation are the same as under the Proposed Reuse Plan.

This page intentionally left blank.

3 Affected Environment



CHAPTER 3: AFFECTED ENVIRONMENT

CONTENTS PAGE

3. AFFECTED ENVIRONMENT 3-1

3.1 Transportation, Traffic, and Circulation 3-1

3.2 Air Quality 3-29

3.3 Noise 3-41

3.4 Land Use 3-45

3.5 Visual Resources and Aesthetics 3-61

3.6 Socioeconomics 3-75

3.7 Hazardous Materials and Waste 3-86

3.8 Geology and Soils 3-104

3.9 Water Resources 3-114

3.10 Utilities 3-125

3.11 Public Services 3-131

3.12 Cultural Resources 3-133

3.13 Biological Resources 3-147

3. AFFECTED ENVIRONMENT

This chapter describes the existing natural and human environment at Hunters Point Shipyard (HPS). This description provides the basis for identifying and evaluating potentially significant environmental impacts that could be caused by the Department of the Navy (Navy) disposal action and the City and County of San Francisco's (City's) proposed reuse. This EIS describes the affected environment by resource area: transportation, traffic, and circulation; air quality; noise; land use; visual resources and aesthetics; socioeconomics; hazardous materials and waste; geology and soils; water resources; utilities; public services; cultural resources; and biological resources.

Also described for each resource area is a region of influence (ROI). An ROI is the likely geographic area in which impacts for a particular resource would occur. The ROI for some resource areas, such as geology and soils, is localized, while for others, such as air quality, the ROI covers a larger region. Figure 3-1 shows the City's South Bayshore planning area, which is the ROI for most of the resource areas evaluated in this document.

3.1 TRANSPORTATION, TRAFFIC, AND CIRCULATION

This section describes existing facilities and systems that make up the local and regional transportation network serving HPS. The network is composed of a system of regional highways, local streets, parking areas, local and regional bus transit lines, bicycle and pedestrian access routes, truck loading areas, and railroad lines. Included in this section is a description of future transportation projects that could contribute to future traffic growth in addition to the proposed reuse of HPS. Growth from proposed projects other than the Proposed Reuse Plan is referred to as "future baseline traffic conditions.". The ROI for transportation, traffic, and circulation includes regional and local access routes (Figure 3.1-1) and the street system within HPS. Fourteen existing intersections likely to be affected by implementing the Proposed Reuse Plan have been identified and are shown on Figure 3.1-2.

Information used to prepare this analysis includes California Department of Transportation (Caltrans) traffic counting detectors installed in 1993, 1994, and 1995 and project-specific studies and analysis. Information in these documents was supplemented by other information in the *Technical Memorandum: Future Baseline Traffic Growth* (Appendix B).

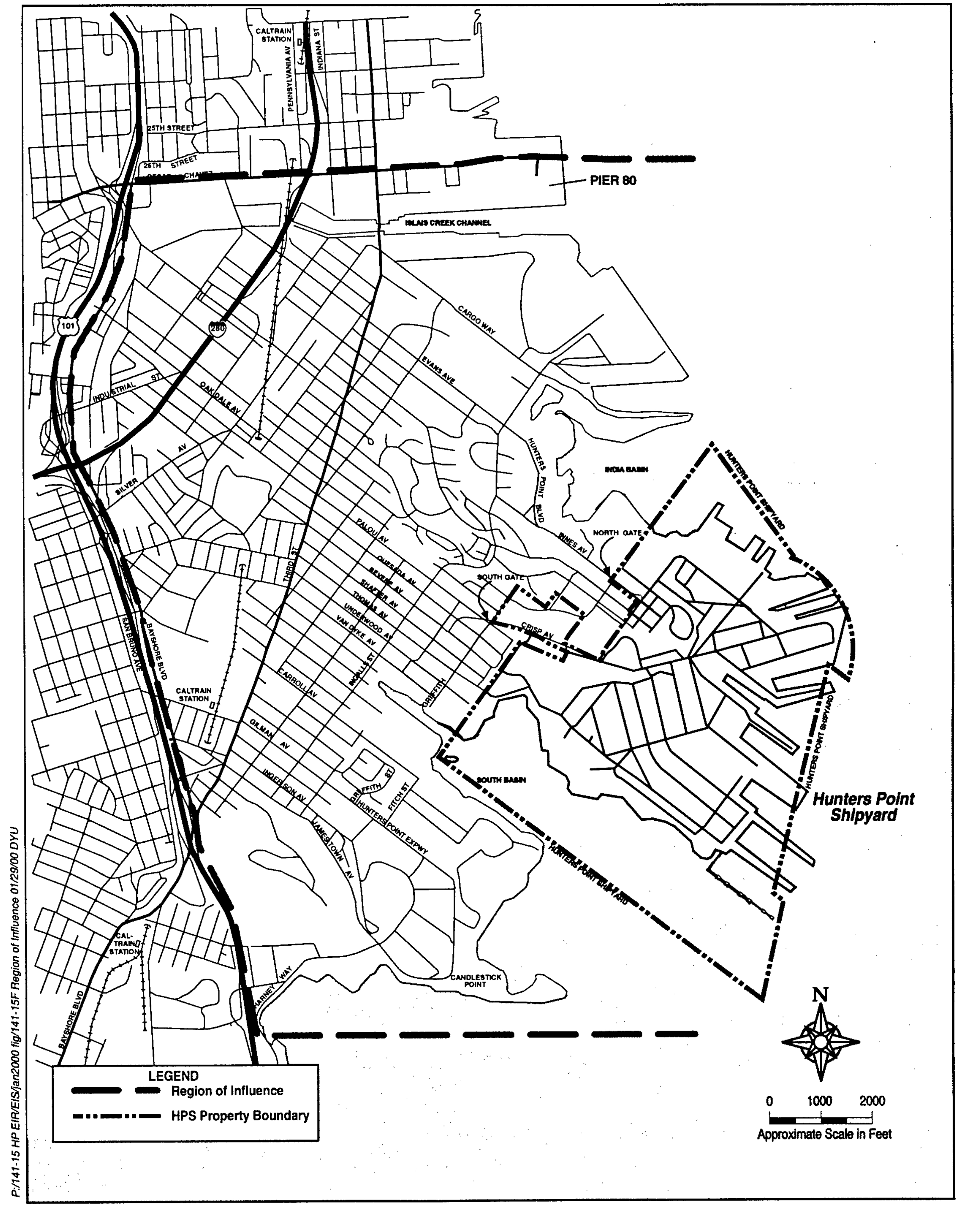


Figure 3-1: Region of Influence, South Bayshore Planning Area

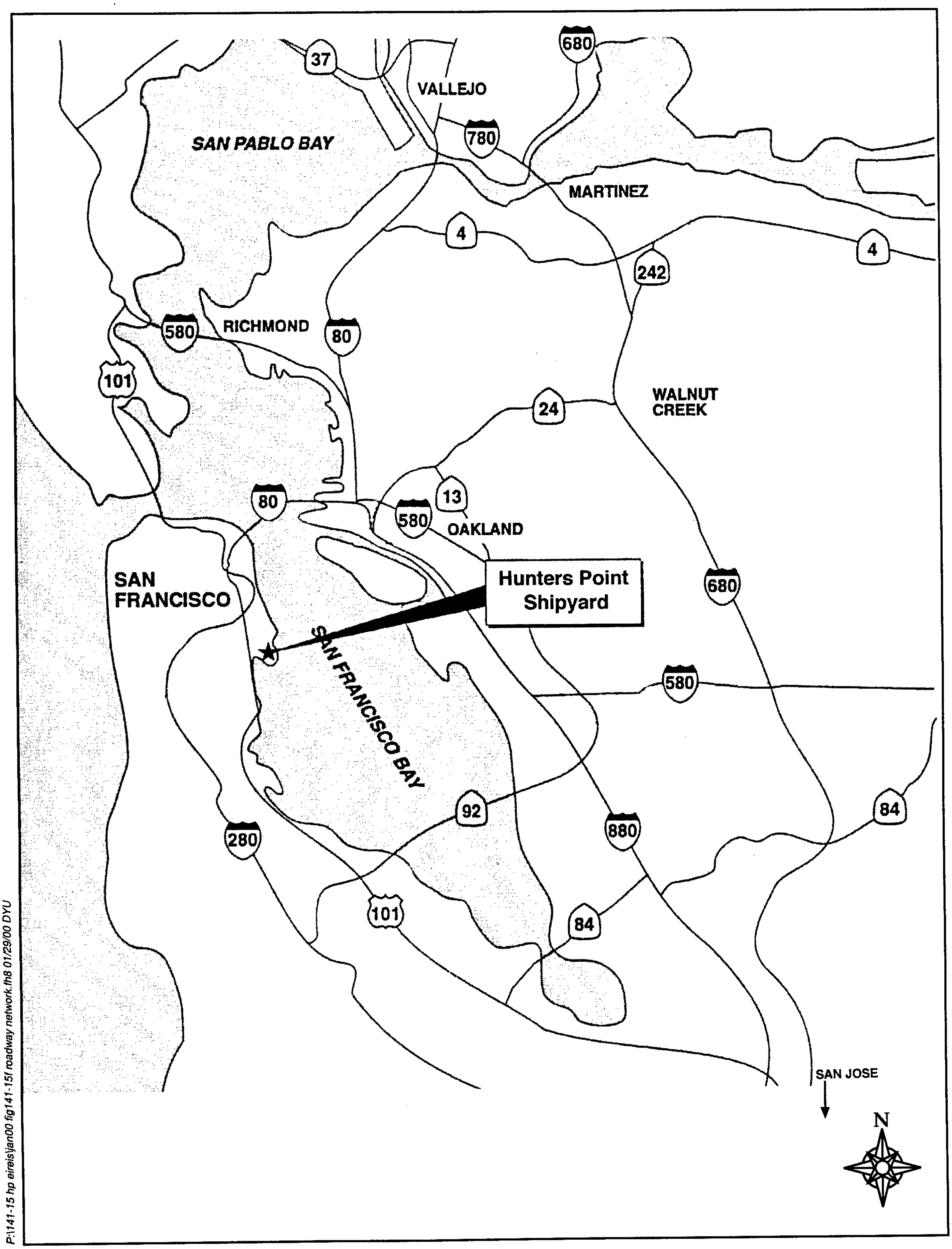
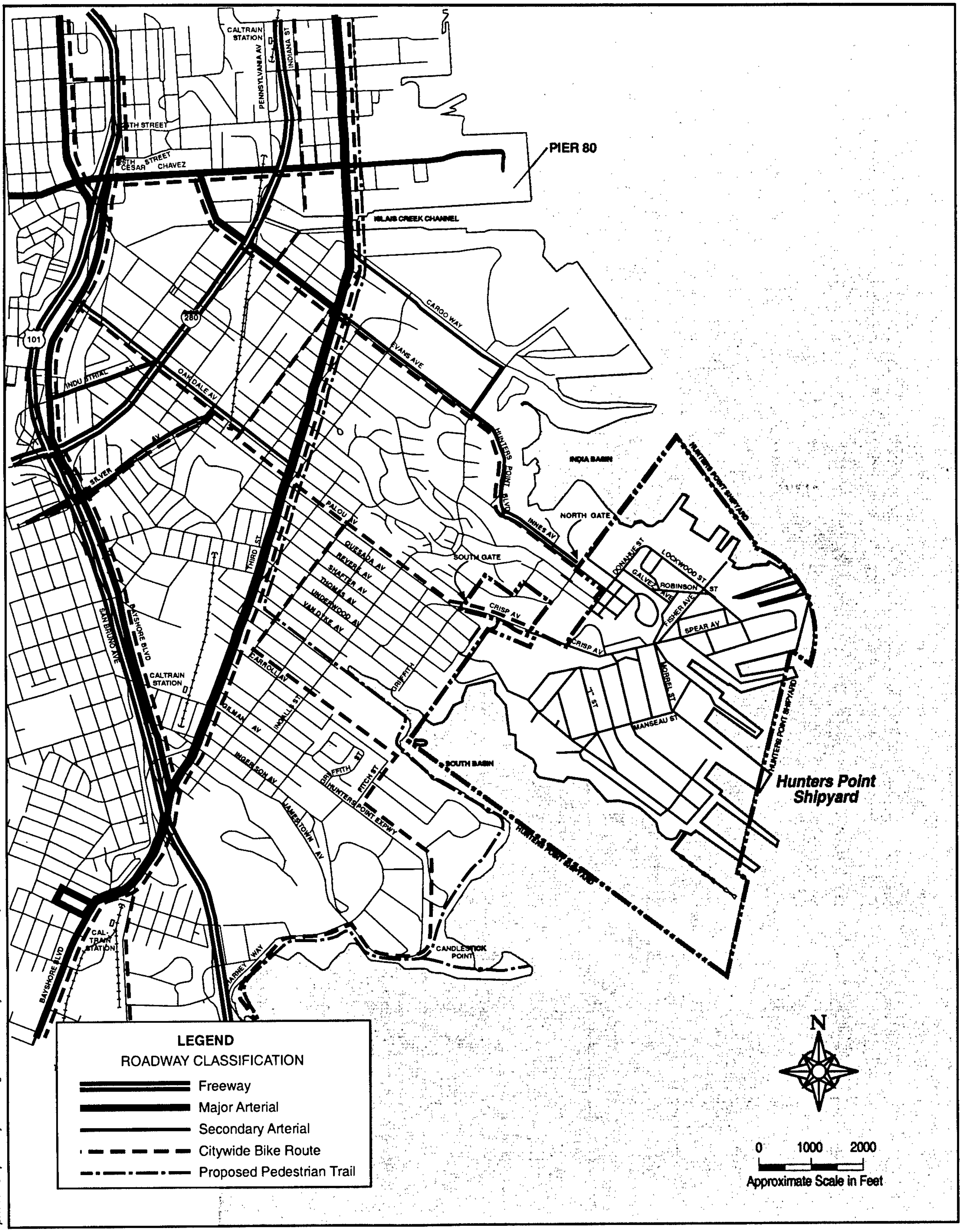


Figure 3.1-1: Regional Roadway Network



p:\141-15 hp eir\eis\jan2000 fig\141-15roadway Class 01/29/00 dyu

Figure 3.1-2: Roadway Classification

3.1.1 Existing Transportation System

Travel to and from HPS involves the use of regional transportation facilities, highways, and transit systems that connect San Francisco neighborhoods to each other and with other parts of the Bay Area and northern California. This section describes the transportation system that is used to travel to and from HPS.

Regional Highways

Three regional highways serve the City: U.S. Highway 101 (U.S. 101), Interstate 280 (I-280), and Interstate 80 (I-80). Figure 3.1-1 illustrates the locations of these regional highways in relation to HPS. Each of these highways is briefly described below.

U.S. Highway 101. U.S. 101 is a principal north-south highway linking San Francisco with the Peninsula to the south and with Marin County to the north. Access to and from U.S. 101 in the vicinity of HPS is at Third Street, Silver Avenue, I-280, Cesar Chavez Street, and Vermont/Mariposa Streets (northbound off-ramp only). This eight-lane, limited-access highway provides a direct connection with I-80 and the San Francisco-Oakland Bay Bridge (Bay Bridge). Between I-80 and the Golden Gate Bridge, U.S. 101 is a six-lane surface street along Van Ness Avenue, Lombard Street, and Doyle Drive. U.S. 101 carries over 200,000 vehicles per day.

Interstate 280. I-280 is a six- to eight-lane freeway connecting the Peninsula with the southwestern quadrant of the City. The freeway provides a direct connection to U.S. 101 via Highway 92 or Interstate 380 (I-380) and terminates at surface streets in the South of Market area. I-280 carries over 165,000 vehicles per day.

Interstate 80. I-80 provides the primary access to and from the East Bay via the Bay Bridge. It connects directly with U.S. 101 west of Eighth Street. I-80 has ten lanes over the Bay Bridge.

Local Roadway Network

The City is served by a grid of streets, some of which extend beyond City boundaries to connect to Daly City and San Mateo County. The roadway network is categorized into three primary classifications: major arterial roadways, secondary arterial roadways, and local roadways (i.e., roadways exclusively within HPS boundaries). Major arterials distribute and collect freeway-bound traffic to accommodate intracity trips and service other medium-distance movements. Secondary arterials distribute and collect traffic generated in the area by major arterials.

Major and secondary arterial roadways within the South Bayshore planning area that provide access to HPS include Third Street, Bayshore Boulevard, Evans Avenue, and

Cesar Chavez Street. These roadways are briefly described below. Figure 3.1-2 shows the location of local streets serving HPS.

Third Street. Third Street is the principal north-south major arterial in the South Bayshore planning area, extending north from its interchange with U.S. 101 and Bayshore Boulevard to its intersection with Market Street. It is the main commercial street in the HPS neighborhood and also serves as a through street and an access way to the industrial areas east of U.S. 101. Third Street is designated as a major arterial[1] and a primary transit street in the Transportation Element of the San Francisco General Plan[1] (City and County of San Francisco, Planning Department, 1995c). It is also designated a Neighborhood Commercial Street[2] and a Citywide Bicycle Route.

Third Street is a six-lane arterial, with 3 10-foot (3-meter [m]) wide traffic lanes in each direction. It has a 4-foot (1.2-m) wide center median, with breaks for left turns at side streets. Separate left-turn lanes are provided at intersections with major arterial roadways but not at other intersections. On-street parallel parking is provided on both sides of most of the street, which effectively reduces the street to two lanes in each direction, except during the A.M. peak period, when parking is prohibited on the east (northbound) side of the street. Third Street carries between 13,000 and 22,000 vehicles per day.

Bayshore Boulevard. Bayshore Boulevard is a four-lane arterial paralleling U.S. 101 on the east from Cesar Chavez Street to Third Street. It is designated a major arterial, a Neighborhood Commercial Street, and a Citywide Bicycle Route. At Third Street, Bayshore Boulevard crosses U.S. 101 and becomes a six-lane roadway. Left turns are made onto side streets from exclusive left-turn lanes. Bayshore Boulevard's northbound and southbound lanes are separated by a center median. Bayshore Boulevard carries between 17,000 and 22,000 vehicles each weekday.

---

[1] City of San Francisco Planning Department, San Francisco General Plan, Transportation Element defines a major arterial as a crosstown thoroughfare whose primary function is to link districts within the City and to distribute traffic from and to the freeways; these are routes generally of City-wide significance and of varying capacity, depending on travel demand. A primary transit street is defined as having a high transit ridership, high frequency of transit routes, or surface rail operations.

[2] Ibid. A neighborhood commercial street is a street in a Neighborhood Commercial District, as identified in the General Plan, with predominantly pedestrian passage, encouraged pedestrian-oriented uses, a maintained buffer (trees and parking) between pedestrian and vehicular circulation, and restricted turning movements and curb cuts.

Evans Avenue. West of Third Street, Evans Avenue is designated a major arterial and carries about 10,000 vehicles per day. East of Third Street, Evans and Innes Avenues are both designated secondary arterials in the San Francisco General Plan[3]. Evans Avenue is a four-lane street connecting to HPS via Innes Avenue.

Cesar Chavez Street. Cesar Chavez Street (formerly Army Street), west of Third Street, is designated a major arterial and a Citywide Bicycle Route and carries 12,000 vehicles per day. It is a four-lane street that provides access to the west and connects to the central waterfront, India Basin, and HPS areas to the east. East of Third Street, Cesar Chavez is a four-lane street that provides access to Pier 80.

Secondary roadways include Ingalls Street, Hunters Point Boulevard, Innes Avenue (on HPS), Cargo Way, Palou Avenue, Crisp Avenue, Industrial Street, Oakdale Avenue, and Silver Avenue. Along these streets, traffic signs include a few stop signs, speed limit signs (25 miles per hour [mph] [40 kilometers (km) per hour]), and some street signs at intersections. There is a signal at Innes Avenue and Donahue Street.

Table 3.1-1 provides a description of major and secondary arterial roadways and describes how to access HPS along their respective routes. Access from U.S. 101 and local freeways also is described.

There are two access points into HPS: the North Gate (which now serves as the main gate) at the intersection of Innes Avenue and Donahue Street, and the South Gate on Crisp Avenue. The South Gate (a secondary gate) is currently closed to traffic, except for emergencies.

Evans and Innes Avenues (as far as the HPS entrance) are the only major arterial roadways directly serving HPS, with other major arterials also providing access, as described previously. Roadways within HPS that provide local circulation are Donahue Street, Galvez Avenue, Spear Avenue, Crisp Avenue, Lockwood Street, Robinson Street, Fisher Avenue, Manseau Street, I Street, and Morrell Street.

Other Transportation Elements

Parking On Site. There are both on-street parking and off-street parking lots throughout HPS, with about 3,700 parking spaces. Parking is restricted to designated spaces and asphalt parking lots, as identified by signage and markings throughout HPS.

---

[3] Ibid. A secondary arterial is defined as a primary intradistrict route of varying capacity serving as a collector for the major thoroughfare and in some cases supplementing the major arterial system.

TABLE 3.1-1: REGIONAL AND LOCAL EXISTING ROADWAYS WITHIN THE SOUTH BAYSHORE AREA

ROADWAY	TYPE OF ROAD	ACCESS TO HPS
Regional Roadways within the South Bayshore Area		
U.S. 101	Eight-lane, north-south freeway linking San Francisco to San Jose (South Bay) and points farther south and Marin County (North Bay) and points farther north.	Off-ramps located at Alemany Boulevard and Bayshore Boulevard/Third Street; on-ramps located at Bayshore Boulevard/Industrial Avenue and Bayshore Boulevard/Third Street. Local roadways connect ramps to HPS.
I-280	Six- to eight-lane north-south freeway connecting San Francisco to San Jose (South Bay) and points farther south.	An off-ramp, west of the U.S. 101 interchange, at Alemany Boulevard and an off-ramp, east of the U.S. 101 interchange, at Cesar Chavez Street. On-ramps located at Indiana Street/25th Street and Pennsylvania Avenue/25th Street. Local roadways connect ramps to HPS.
I-80	Six- to ten-lane freeway linking San Francisco to the East Bay via the San Francisco-Oakland Bay Bridge and connecting with U.S. 101 south of downtown San Francisco.	From I-80, vehicles connect to U.S. 101 and then follow U.S. 101 and local roadways to HPS (Figure 3.1-1).
Local Roadways within the South Bayshore Area		
Third Street	Six-lane major north-south arterial.	Evans Avenue to Hunters Point Boulevard to Innes Avenue.
Bayshore Boulevard	Four-lane major north-south arterial that parallels U.S. 101.	From Bayshore Boulevard, use any number of secondary streets to Third Street proceeding to HPS from Third Street.
Evans Avenue, Hunters Point Boulevard, and Innes Avenue	Four-lane major east-west arterial connecting Cesar Chavez Street to Third Street; becomes a secondary arterial and merges with Hunters Point Boulevard, which merges with Innes Avenue.	Evans Avenue becomes Hunters Point Boulevard and merges with Innes Avenue two blocks before the Main Gate of HPS.
Cargo Way	Four-lane, east-west secondary arterial that provides a large percentage of truck access to the Intermodal Container Transfer Facility, India Basin Industrial Park, and Piers 90-96.	From Cargo Way, travel to Evans Avenue, following access from Evans Avenue to HPS.
Oakdale Avenue	Two- to four-lane, east-west secondary arterial connecting U.S. 101 and Bayshore Boulevard to Third Street and the South Bayshore area.	From Oakdale Avenue, travel to Third Street, following access from Third Street to HPS.
Industrial Street	Four-lane, north-south secondary arterial linking U.S. 101 to South Bayshore area.	From Industrial Way, travel to Oakdale Avenue, following access from Third Street to HPS.
Silver Avenue	Two-lane, east-west secondary arterial providing access to on- and off-ramps to and from U.S. 101 at Bayshore Boulevard and San Bruno Avenue.	From Silver Avenue, travel to Oakdale Avenue, following access from Third Street to HPS.
Carroll Avenue	Four-lane, east-west secondary arterial provides access from Candlestick Point area to Third Street and serves as a designated truck route.	From Carroll Avenue, travel to Third Street, following Third Street access to HPS.
Crisp Avenue	Two-lane, north-south secondary arterial closed to non-emergency traffic at HPS South Gate.	To exit HPS, travel Crisp to Spear, to Lockwood, to Donahue, to Innes Avenue.
Palou Avenue	Two-lane, east-west secondary arterial providing access to Third Street.	From Palou Avenue, follow Third Street access to HPS.
Ingalls Street	Two-lane, east-west secondary arterial providing access to Palou Avenue.	From Ingalls Street, travel to Palou and follow Third Street access to HPS.

Public Transportation

The City is a transit hub served by local and regional bus, rail, and ferry services. Public transit in San Francisco is primarily provided by six public operators and two private operators.

The main regional service is to and from the downtown area, but some service is provided to the South Bayshore area. Regional service is provided to downtown San Francisco from the San Mateo Peninsula and points south by San Mateo County Transit District (SamTrans) bus service and Bay Area Rapid Transit (BART); from the East Bay by Alameda-Contra Costa Transit District (AC Transit) bus service, BART, and ferry service; and from the North Bay by Golden Gate Transit bus service and by ferry service. Once in San Francisco, commuters must take the local San Francisco Municipal Railway (MUNI) bus #19 to HPS. See Appendix B, Transportation, Traffic, and Circulation, Regional Transportation Service for a table showing regional travel times.

San Francisco Municipal Railway and Light Rail System

MUNI operates 79 bus lines 7 days a week and carries over 211 million riders annually. MUNI provides direct connections in cooperation with all of the other transit services in the City. Major transfer centers (regional transit terminals) are at the Ferry Building, Transbay Terminal, Embarcadero and Civic Center BART stations along Market Street, Stonestown Shopping Center, and Daly City BART station. Nine MUNI bus routes serve the South Bayshore area, as illustrated on Figure 3.1-3 and described below.

Radial Routes Providing Access to Downtown San Francisco. MUNI provides primary north-south access from the South Bayshore planning area to the central business district (downtown San Francisco) on two routes: the #9 San Bruno route and the #15 Third Street route. MUNI collects ridership information in downtown San Francisco where the ridership levels are highest. Specific ridership information for the Bayshore Planning Area is not available. The Third Street Light Rail Line (LRT) Project EIR (U.S. Department of Transportation, Federal Transit Association and the City and County of San Francisco, Planning Department, 1998) estimated that MUNI bus travel time between Bayview (Third Street/Palou Avenue) and downtown (Third Street/Market Street or Market Street/Main Street) is approximately 30 minutes, and LRT travel time between the same two points would be approximately 22 to 24 minutes each way.

Route #9 San Bruno: This route operates from Visitacion Valley to the Ferry Terminal via Bayshore Boulevard and Potrero Avenue. The line serves only the western edge of the South Bayshore area. Weekday operation times are 5:35 A.M. to 12:18 A.M. Buses operate every eight minutes during peak periods. Major regional connections include Market Street BART stations and the Ferry Building. Connections along Market Street with other MUNI lines include connections to all MUNI Metro subway lines. The route

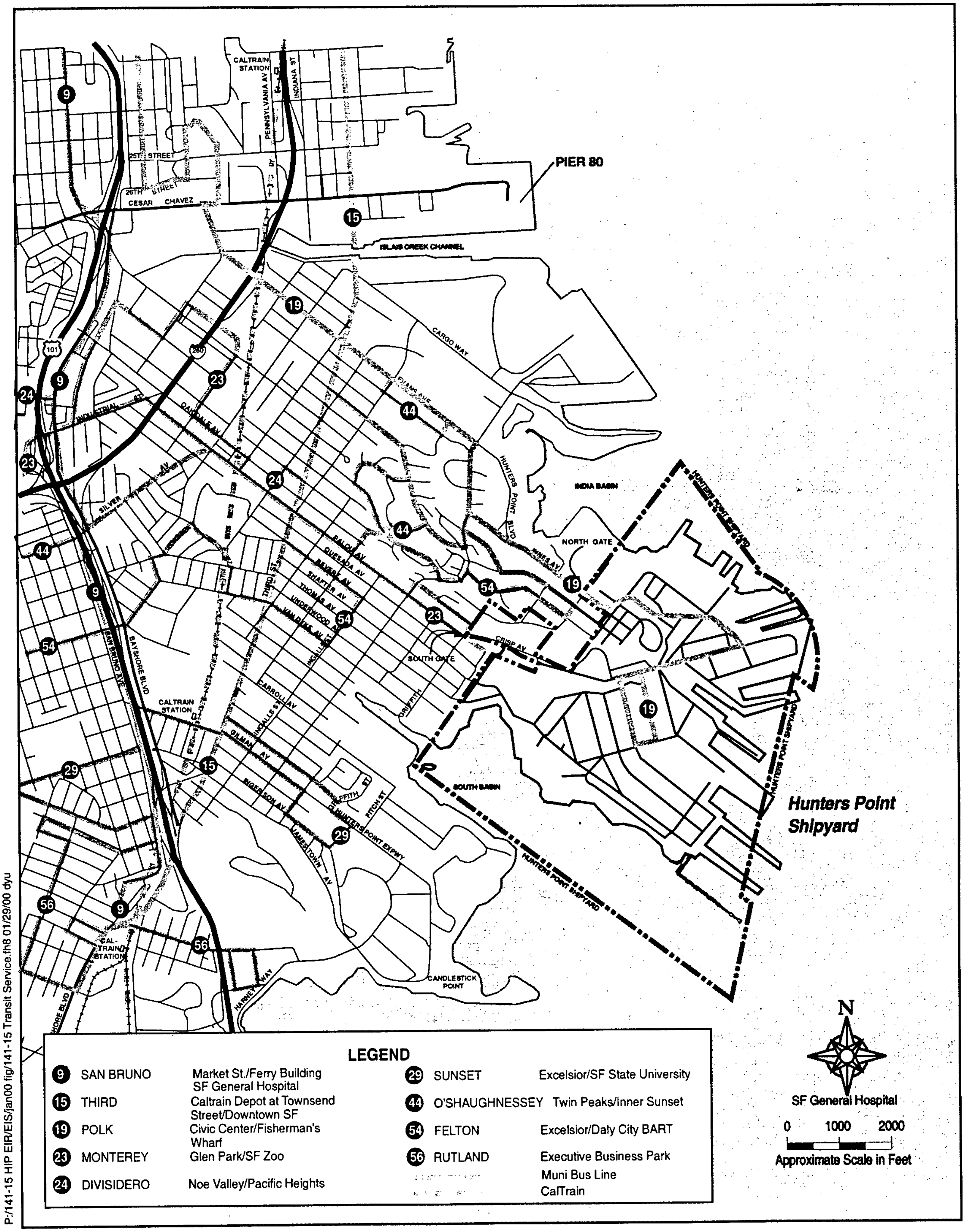


Figure 3.1-3: Existing Transit Service

also serves San Francisco General Hospital. Buses on the #9 San Bruno line are accessible to wheelchair users.

Route #15 Third Street: This is the primary trunk line serving the South Bayshore planning area and is one of the most frequent services operated by MUNI. The route also serves the downtown campus of City College, downtown San Francisco, Chinatown, North Beach, and Fisherman's Wharf via Third Street and Columbus Avenue. Weekday operation times are 5:28 A.M. to 11:59 P.M. The route operates every five to six minutes during peak periods. The route provides important regional connections with the California Train (CalTrain) terminal at Fourth and Townsend Streets and comes within two blocks of the CalTrain Paul Avenue station in the South Bayshore planning area. The route also connects with the BART and MUNI Metro subway systems at both the Montgomery and Embarcadero stations. The route is operated using articulated motor coaches, which are equipped with wheelchair lifts.

Crosstown Routes. Crosstown routes provide service between neighborhoods in San Francisco without necessarily serving passengers in the central business district. Five crosstown routes serve the South Bayshore area. These routes are described below.

Route #19 Polk: This is the only route providing direct service to HPS. Although it is considered a crosstown route, it operates primarily north-south, providing service along Innes Avenue, Evans Avenue, and Rhode Island Street. Weekday operation times are 5:22 A.M. to 7:42 P.M. Route #19 provides service every 10 to 15 minutes during peak periods. Observation of ridership in the vicinity of HPS indicates it is light. Major destinations include the Civic Center and Fisherman's Wharf. The route provides regional connections to the BART and MUNI Metro subway system at the Civic Center station. Route #19, however, does not provide direct service to CalTrain, but connects with the #15 Third Street line for service to downtown. Route #19 is operated with standard motor coaches, which are wheelchair accessible.

Route #23 Monterey: This motor coach route operates from Sloat Boulevard and the Great Highway near Ocean Beach to Third Street and Palou Avenue. This is an east-west route that connects with BART at the Glen Park station. The route also serves the San Francisco Zoo and Stern Grove. The South Bayshore terminus of this route, at Palou Avenue and Ingalls Street, is several blocks from the HPS South Gate. Weekday operation times are 6:05 A.M. to 12:05 A.M. Route #23 provides service every 15 minutes during peak periods.

Route #24 Divisadero: This trolley bus route operates from Third Street and Palou Avenue to Pacific Heights via Cortland Avenue and Divisadero Street. The route connects the South Bayshore planning area with Bernal Heights, Noe Valley, the Castro, Western Addition, and Pacific Heights. Major destinations include the Castro Street

MUNI Metro station and Kaiser and Mt. Zion hospitals. The line operates from 5:00 A.M. to 1:00 A.M., with buses arriving every eight minutes during peak periods.

Route #29 Sunset: This motor coach route provides a substantial number of regional and City-oriented connections for the South Bayshore planning area. A number of important regional connections are made on this route, which provides a connection to the Paul Avenue CalTrain station and the Balboa Park BART station, as well as Golden Gate Transit buses at the Golden Gate Bridge toll plaza. In addition to providing regional connections, this route provides unique connections between the South Bayshore planning area and locations within the City, including City College, San Francisco State University, Stonestown Shopping Center, Golden Gate Park, and the Presidio. This route operates from 6:03 A.M. to 12:44 A.M., with buses arriving every 15 minutes during peak periods.

Route #44 O'Shaughnessy: This motor coach route terminates at the Evans Avenue postal facility within the South Bayshore planning area. Route #44 makes regional connections at the Glen Park BART station. This route connects with MUNI Metro at the Forrest Hill station. Major stations include the U.S. postal facility on Evans Avenue, McAteer High School, Laguna Honda Hospital, and the Sunset and Richmond districts. This route operates from 5:55 A.M. to 12:30 A.M. with buses arriving every 10 to 15 minutes during peak periods.

Community Service Routes. Community service routes provide local circulation within a neighborhood or relatively small area. These routes are often feeder routes to main line MUNI or regional services. Two community service routes operate within the South Bayshore planning area. The #54 Felton route provides extensive connections within and outside of the South Bayshore planning area. The #56 Rutland route serves only a small part of the area and provides daytime service only.

Route #54 Felton: This route circulates throughout the southernmost part of the South Bayshore planning area and operates near HPS. The route connects the Bayshore, Excelsior, and Ingleside neighborhoods with both the Balboa Park and Daly City BART stations. Connections at the Daly City BART station are particularly important, because this station is also a gateway for SamTrans service. Connections also are made locally to the #15 Third Street and the #29 Sunset lines, which allow for trips to downtown, San Francisco State University, and Stonestown Shopping Center. This route operates from 5:53 A.M. to 12:35 A.M., with buses arriving every 20 minutes during peak periods.

Route #56 Rutland: This route serves only a small corner of the South Bayshore planning area, providing service to Executive Business Park. The primary function of this route is local circulation within the Visitacion Valley neighborhood. The #56 line connects with the #15 Third Street and #9 San Bruno lines for crosstown service. This route operates from 6:50 A.M. to 7:05 P.M. and is one of only two routes in the MUNI system that operates at 30-minute headways during peak periods.

CalTrain

CalTrain provides commuter rail service between Santa Clara and San Francisco counties. The closest station to HPS is the Paul Avenue station, located two blocks west of Third Street near the Paul Avenue/Gould Street intersection. This station has limited service during the week and no service on weekends. In the morning commute period, one northbound and two southbound trains stop at the station. In the afternoon commute period, two northbound and two southbound trains stop at the station.

Approximately one mile (1.6 km) southwest of the Paul Avenue station is the Bayshore station, which has much more extensive service than the Paul Avenue station. In the northbound direction, 25 trains per day stop Monday through Thursday, 26 trains on Friday, 14 on Saturday, and 10 on Sunday. In the southbound direction, 27 trains stop Monday through Thursday, 28 on Friday, 14 on Saturday, and 10 on Sunday.

Bicycle and Pedestrian Circulation

There are several signed bicycle routes in the South Bayshore planning area. A bicycle route connects San Mateo County, 3Com Park and Third Street via Alana Way, Hunters Point Expressway, Gilman Avenue and Fitch Street (Arelious Walker Drive), and Carroll Avenue. The City General Plan and the *San Francisco Bicycle Plan* (City and County of San Francisco, Department of Parking and Traffic, 1997b) designate Third Street, Palou Avenue, and Evans Avenue/Hunters Point Boulevard/Innes Avenue, Keith Street, Oakdale Avenue, Phelps Street, Cesar Chavez Street, and Bayshore Boulevard as preferred commuter bike routes.

There are no pedestrian trails designated within HPS; however, the San Francisco Bay Trail, a recreational trail system around the shoreline of San Francisco Bay and San Pablo Bay, is planned to be extended through the South Bayshore area along Cargo Way, Jennings Street, Evans Avenue, Hunters Point Boulevard, Innes Avenue, India Basin Shoreline Park Open Space (boundary to Submarine Piers, Area B1), HPS shoreline, and Candlestick Point State Recreation Area.

Truck Service

A substantial number of trucks travel on Third Street in the HPS project area. A July 1996 survey by the San Francisco Department of Parking and Traffic (DPT) showed that during the A.M. peak period, trucks usually make up 10 to 15 percent of the total traffic on Third Street. Truck levels dropped during the P.M. peak hour, when about four to seven percent of the overall traffic was trucks (City and County of San Francisco, Department of Parking and Traffic, 1996). Approximately 50 percent of the trucks on

Third Street have 3 or more axles, and about 30 percent of trucks have 4 or more axles (City and County of San Francisco, Department of Parking and Traffic, 1993).

Although there are no signs that designate Third Street as a truck route, the San Francisco General Plan identifies Third Street, Bayshore Boulevard, Evans Street, Cargo Way, and Cesar Chavez Street as routes with significant truck traffic. Access to U.S. 101 and the regional freeway facilities is primarily via Third Street and via the U.S. 101 ramps at Bayshore Boulevard and Cesar Chavez Street.

Current truck access to the HPS main gate is from Third Street via Evans Avenue/Hunters Point Boulevard/Innes Avenue. Figure 3.1-4 presents the truck routes and truck restrictions for the South Bayshore planning area. Trucks weighing more than 11,000 pounds (4,989 kilograms [kg]) are prohibited on Third Street, and no through trucks are allowed on Third Street between Jamestown Avenue and Jerrold Avenue.

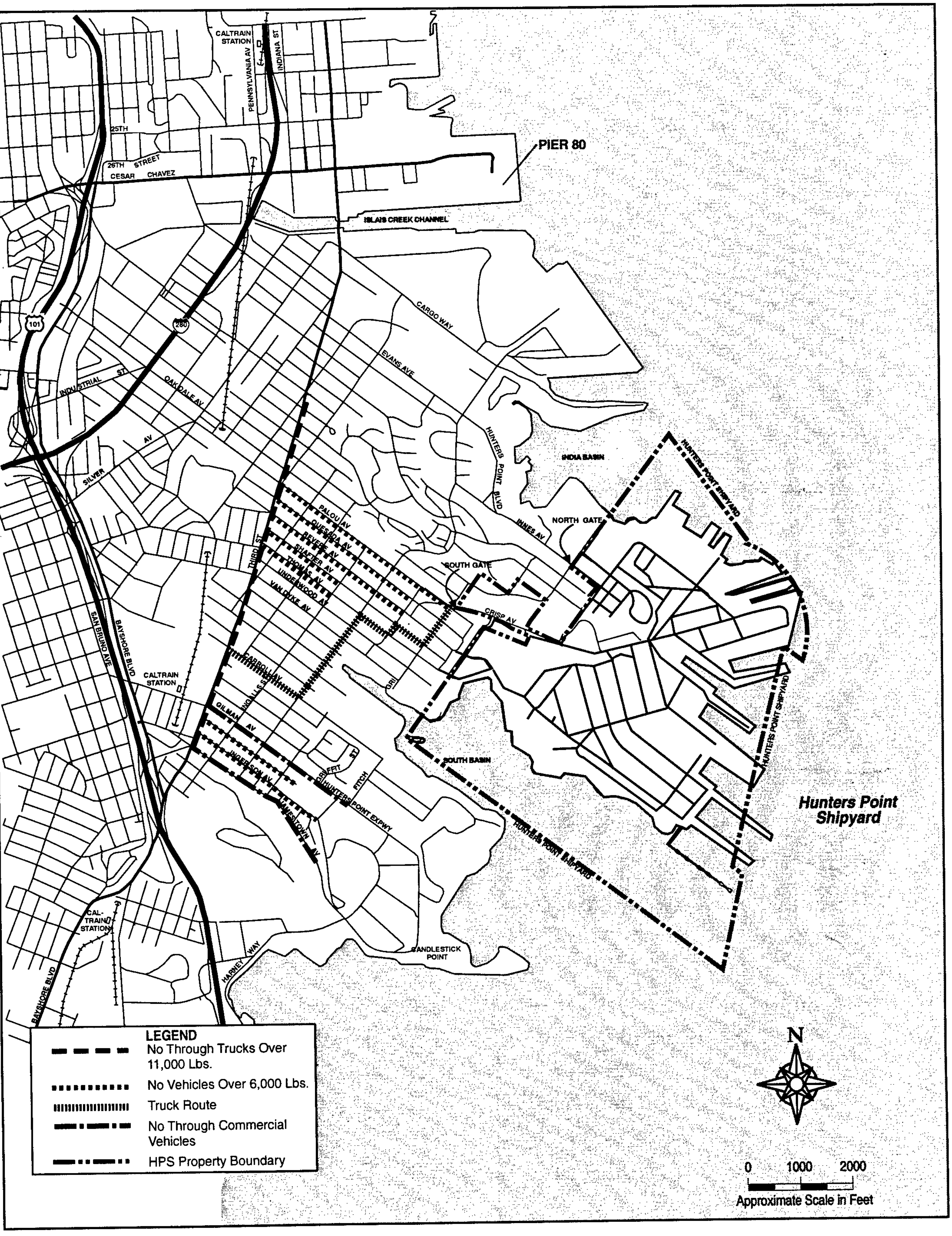
Truck traffic is allowed between the industrial area near the Crisp Avenue gate to HPS and Third Street. This route does not currently connect with HPS, since the South Gate at Crisp Avenue is closed. Several streets in the South Bayshore planning area have restrictions placed by the City, prohibiting vehicles weighing more than 6,000 pounds (2,721 kg). These streets include Palou Avenue, Quesada Avenue, Revere Avenue, and portions of Shafter Avenue and Thomas Avenue.

Railroads

There are infrequent freight rail movements into HPS; most are associated with transporting museum rail cars to the Golden Gate Railroad Museum south of Crisp Avenue in HPS.

The primary freight route runs parallel to the Joint Powers Board (JPB) commuter rail track (used by CalTrain), previously owned by the Southern Pacific Transportation Company (SP). SP (now owned by Union Pacific) sold its rail track to the JPB with the agreement that SP can provide exclusive rail freight service to the City along this track. The secondary track leading from the JPB mainline to HPS is through the South Gate, along a route through the South Bayshore community. The secondary track has not been maintained. The connection with the main line is provided for the northbound direction only; there is no direct southbound connection.

Rail freight service to HPS and San Francisco is constrained by a lack of a rail freight yard within San Francisco to handle train maneuvers. The nearest rail yard is in San Jose. The tunnel heights along the mainline track also restrict freight movement. Freight movements along the JPB mainline are restricted to midday and evening hours to avoid conflict with CalTrain passenger commuter trains.



P:\141-15 hp eireis\jan00 fig\141-15 Truck Restrictions\ 01/29/00 DYU

Figure 3.1-4: Existing Truck Restrictions

3.1.2 Methodology for Estimating Existing and Future Baseline Traffic Conditions

Intersections

Operating characteristics of intersections are described by use of the concept of Level of Service (LOS). LOS designations are a qualitative description of an intersection's performance based on traffic delays.

Operations at signalized intersections were evaluated using the operations methodology for intersection delay, outlined in Chapter 9 of the *1985 Highway Capacity Manual* (HCM) (Transportation Research Board, revised 1994). This method determines the capacity for each lane group approaching a signalized intersection. LOS is then based on average stopped delay per vehicle for various movements within the intersection (Table 3.1-2). LOS A indicates free-flow conditions with short delays, while LOS F indicates congested conditions with extremely long delays. LOS A, B, C, and D are considered excellent to satisfactory service levels, LOS E is undesirable, and LOS F conditions are unacceptable.

For unsignalized intersections with minor street control (i.e., a stop sign), operations were evaluated using the methodology outlined in Chapter 10 of the HCM. This method determines the conflicting traffic volumes, the capacity of the gaps in the major traffic stream, and estimates the average total delay for each movement. LOS is then based on the average total delay. LOS for unsignalized intersections ranges from A, which is generally free-flow conditions with easily made turns by the minor street traffic, to F, which indicates very long delays for the minor street traffic.

All-way stop controlled intersections were analyzed using the *Transportation Research Board, Circular 373* analysis methodology, which estimates the capacity of delay for each roadway approach based upon the intersection geometry and the turning movements at the intersection. The LOS is determined based upon average total delay.

TABLE 3.1-2: HCM LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS

LEVEL OF SERVICE	SIGNALIZED INTERSECTIONS STOPPED DELAY PER VEHICLE (SECONDS)	TWO-WAY STOP AND ALL-WAY STOP CONTROLLED INTERSECTIONS STOPPED DELAY PER VEHICLE (SECONDS)
A	≤5.0	0 - 5
B	5.1 - 15.0	5.1 - 10.0
C	15.1 - 25.0	10.1 - 20.0
D	25.1 - 40.0	20.1 - 30.0
E	40.1 - 60.0	30.1 - 45.0
F	>60.0	>45.0

Source: Transportation Research Board, 1994.

Freeways and Ramps

Existing freeway and ramp conditions are based on Caltrans published traffic counts and traffic information presented in a report on the Embarcadero Freeway and Terminal Separator Structure (City and County of San Francisco, Planning Department, 1996c).

Future Baseline Traffic Conditions

Future baseline traffic conditions (without HPS reuse) were developed using 1990 and 2010 MTC regional travel demand models (MTCFAST-80/81). For 2025, straight-line growth was assumed between 1990 and 2025. The model is based on forecasts of regional growth prepared by the Association of Bay Area Governments (ABAG). The 2010 growth rate was estimated to be about 23 percent. The 2025 growth rate was estimated to be about 47 percent. These percentages were applied to traffic count data to obtain future baseline traffic conditions (San Francisco Redevelopment Agency, 1998a).

3.1.3 Existing Traffic Conditions

Intersections

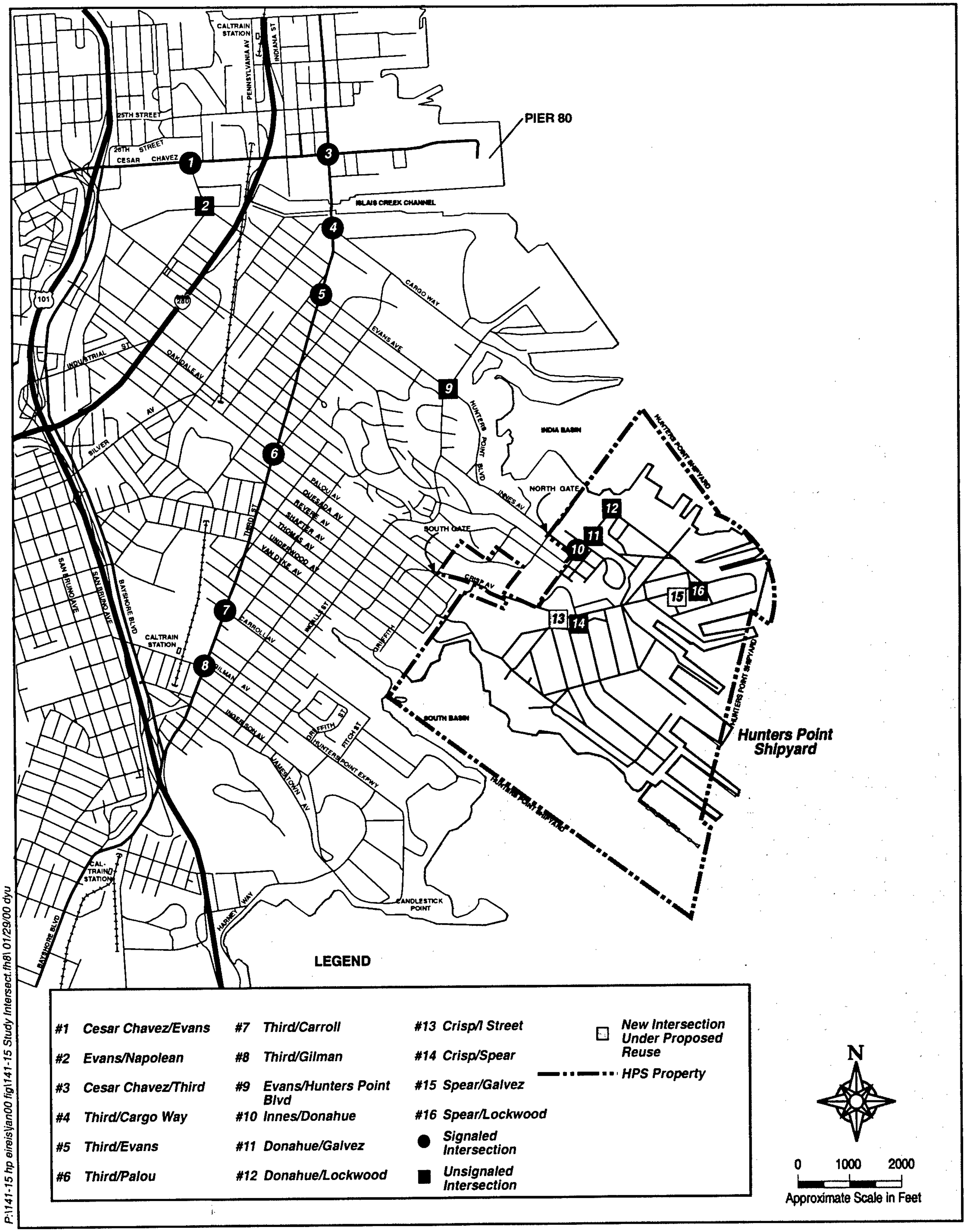
Traffic conditions at 14 existing intersections were evaluated using count data collected in November 1993 and 1994 and May 1995 (Figure 3.1-5). Five intersections are within HPS, and the remaining nine intersections are located throughout the South Bayshore planning area. The A.M. peak period counts were conducted between 7:00 A.M. and 9:00 A.M., while the P.M. peak period counts were conducted between 4:00 P.M. and 6:00 P.M.

Intersections within HPS. Based on the 1993, 1994, and 1995 traffic counts, all five existing intersections at HPS operated with minimal or no delay (LOS A) during both the A.M. and P.M. peak hours (Table 3.1-3).

Intersections outside HPS. During the A.M. peak hour, all nine existing intersections in the South Bayshore planning area operated with minimal delay at LOS C or better conditions (Table 3.1-3).

During the P.M. peak hour, eight intersections operated at LOS C or better. The signalized intersection at Evans Avenue/Cesar Chavez Street operated at LOS D because of heavy northbound left turns from Evans Street to Cesar Chavez Street and heavy westbound left turns from Cesar Chavez Street to Evans Street.

Additional A.M. and P.M. peak-hour turning movement counts at Third Street/Cesar Chavez Street and at Third Street/Evans Avenue were conducted in October 1997.



P:\141-15 hp eireis\jan00 fig\141-15 Study Intersect.fh8\ 01/29/00 dyu

Figure 3.1-5: Existing Study Intersections

TABLE 3.1-3: EXISTING INTERSECTION LEVEL OF SERVICE

INTERSECTION	A.M. PEAK		P.M. PEAK	
	DELAY (sec/veh)*	LOS	DELAY (sec/veh)*	LOS
HPS Streets				
#1 Crisp Avenue/Spear Avenue	3.0	A	2.8	A
#2 Crisp Avenue/I Street	project proposed		project proposed	
#3 Spear Avenue/Galvez Avenue	project proposed		project proposed	
#4 Donahue Street/Galvez Avenue	3.3	A	2.9	A
#5 Innes Avenue/Donahue Street	0.2	A	0.2	A
#6 Donahue Street/Lockwood Street	3.5	A	3.5	A
#7 Spear Avenue/Lockwood Street	2.7	A	2.7	A
City Streets External to HPS				
#8 Evans Avenue/Hunters Point Blvd.	6.0	B	8.0	B
#9 Third Street/Evans Avenue**	17.8	C	16.2	C
#10 Third Street/Cargo Way	18.8	C	11.2	B
#11 Third Street/Cesar Chavez **	12.7	B	14.3	B
#12 Cesar Chavez Street/Evans Avenue	24.0	C	39.4	D
#13 Evans Avenue/Napoleon & Tolano	6.8	B	6.7	B
#14 Third Street/Carroll Avenue	5.9	B	5.9	B
#15 Third Street/Gilman Avenue	11.7	B	9.7	B
#16 Third Street/Palou Avenue	11.2	B	10.0	B

Notes:

Existing LOS is from 1993 count data.

*Sec/veh = seconds per vehicle.

**In October 1997, the DPT conducted A.M. and P.M. peak-hour turning movement counts at Third Street Street/Cesar Chavez Street and at Third Street/Evans Avenue. The Third Street/ Cesar Chavez Street and Third Street/Evans Avenue intersections performed at LOS C and LOS D (City and County of San Francisco, Department of Parking and Traffic, 1997a).

These more recent counts indicated that the Third Street Street/Cesar Chavez Street and Third Street/Evans Avenue intersections perform at LOS C and LOS D conditions, respectively, during both the A.M. and P.M. peak hours (City and County of San Francisco, Department of Parking and Traffic, 1997a).

Freeway Segments and Ramps

To estimate the amount of through traffic volume in the HPS reuse project area, traffic counts were collected on three freeway segments that would most likely experience an increase in use as a result of HPS reuse: U.S. 101 at the San Mateo County line, I-280 south of U.S. 101, and the Bay Bridge. Traffic counts along these three regional screenlines were collected for the morning period between 7:00 and 9:00 A.M. and the evening period between 4:00 and 6:00 P.M. (Screenlines are hypothetical lines that would be crossed by a person traveling between the City and other parts of the region; they are the measurement points for the freeway travel projections presented in this analysis.) Traffic operating conditions were analyzed for the peak hour between 8:00 and 9:00 A.M. and 5:00 and 6:00 P.M.

Traffic volumes during the peak hours were compared to the general capacity values to calculate the volume-to-capacity (v/c) ratio[4] to evaluate whether excess capacity was available to accommodate future traffic growth. At these screenlines, the v/c ratios generally ranged between 0.70 and 0.90 (Table 3.1-4), which indicates that excess capacity does exist, although a large amount of the roadway capacity is used by existing traffic.

TABLE 3.1-4: EXISTING FREEWAY CONDITIONS

SCREENLINE LOCATION	DIRECTION	A.M. PEAK		P.M. PEAK	
		VOLUME	V/C RATIO	VOLUME	V/C RATIO
U.S. 101, at the San Francisco County Line (1)	Northbound	6,400	0.70	6,350	0.69
	Southbound	7,050	0.77	6,250	0.68
San Francisco/Oakland Bay Bridge (2)	Eastbound	7,910	0.69	9,190	0.80
	Westbound	10,500	0.91	8,230	0.72
I-280, south of U.S. 101 (3)	Northbound	7,500	0.82	3,950	0.43
	Southbound	3,350	0.36	8,300	0.90

Notes:
(1) = Caltrans traffic volumes July 1993.
(2) = Alternatives to Replacement of the Embarcadero Freeway and the Terminal Separator Structure EIS/EIR (City and County of San Francisco, Planning Department, 1996).
(3) = Caltrans traffic volumes, August 1993.

Similar to the estimates of freeway traffic, traffic volumes on 11 selected access ramps that serve HPS from U.S. 101 and I-280 were collected to calculate existing v/c ratios (Table 3.1-5). Most of the ramps have low v/c ratios during peak hours, indicating available capacity on the ramps. However, the following ramps have v/c ratios approaching 0.90:

- The U.S. 101 northbound off-ramp to Bayshore Boulevard/Cesar Chavez Street during the A.M. peak hour.

[4] A v/c ratio is the volume of vehicles on a roadway divided by the available capacity of the roadway.

- U.S. 101 southbound on-ramp from Bayshore Boulevard/Third Street during the P.M. peak hour.
- U.S. 101 northbound off-ramp to Third Street/Bayshore Boulevard during the A.M. peak hour.

The closure of I-280 following the 1989 Loma Prieta earthquake resulted in an increase in traffic volumes on Third Street, as vehicles diverted to Third Street for north-south movements. This shift in traffic volumes onto Third Street was reflected in higher volumes on the northbound off-ramps during the A.M. peak hour and southbound on-ramps during the P.M. peak hour. Since completion of the I-280 seismic retrofit project in 1998, traffic patterns have returned to pre-earthquake conditions.

TABLE 3.1-5: EXISTING RAMP CONDITIONS

FRWY	ON-/OFF-RAMP		A.M. PEAK HOUR		P.M. PEAK HOUR	
			VOL	V/C	VOL	V/C
I-280	NB Off-ramp	to Cesar Chavez St.	525	0.31	335	0.20
	NB On-ramp	from Indiana St.	1,210	0.71	1,420	0.84
	SB Off-ramp	to Pennsylvania St.	560	0.33	800	0.47
U.S. 101	NB Off-ramp	to Bayshore Blvd./ Cesar Chavez St.	1,840	0.87	1,625	0.76
	NB On-ramp	from Bayshore Blvd. (Near Cesar Chavez St.)	1,155	0.68	690	0.41
	NB On-ramp	from Cesar Chavez St.	460	0.27	490	0.29
	SB Off-ramp	to Cesar Chavez St.	750	0.44	200	0.12
	NB Off-ramp	to Third St./ Bayshore Blvd.	1,875	0.88	860	0.40
	NB On-ramp	from Third St./ Bayshore Blvd.	620	0.36	490	0.29
	SB Off-ramp	to Bayshore Blvd./ Third St.	735	0.43	715	0.42
	SB On-ramp	from Bayshore Blvd./ Third St.	710	0.42	1,460	0.86

Notes:

Existing conditions are based on 1993 count data.

NB = north-bound

SB = south-bound

vol = volume

v/c = volume-to-capacity ratio

3.1.4 Future Transportation Projects

This section discusses proposed changes to the transportation systems in the HPS area and, therefore, provides the future context of the HPS alternatives with regard to future background transportation growth. These changes are in addition to those proposed as part of the Proposed Reuse Plan, which are described in Section 4.1.

Third Street Light Rail Line

In November 1998, the City issued a final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Third Street Light Rail Transit (LRT) project (U.S. Department of Transportation, Federal Transit Administration and the City and County of San Francisco, Planning Department, 1998).

The project will extend light rail into the southeastern quadrant of the City and link some or all of Chinatown, downtown, South of Market, Potrero Hill, Bayview Hunters Point, and the Visitacion Valley/Little Hollywood neighborhoods, primarily along Third Street. The LRT project will be constructed in two phases.

The first phase of the Third Street LRT project will extend the J-Church light rail line from the MUNI Metro Extension along Third Street and Bayshore Boulevard to a southern terminal at the CalTrain Bayshore Station near the county line, a total of 5.4 miles (8.7 km). Implementation of the first phase will require the removal of one travel lane in each direction along portions of Third Street and Bayshore Boulevard. Phase one is projected to be operational by 2003.

The second phase of the Third Street LRT project will establish an independent light rail line (not integrated with the MUNI Metro system) from the CalTrain Bayshore Station along Bayshore Boulevard and Third Street to a new subway north of Brannan Street extending into Chinatown. The northern terminus of the subway will be a station at Stockton and Clay Streets. The total length of this alignment will be 7.0 miles (11.2 km). Phase two will not be constructed until sometime after 2005 (U.S. Department of Transportation, Federal Transit Administration, and the City and County of San Francisco, Planning Department, 1998).

Mission Bay Project

In September 1998, the City certified completion of a Subsequent EIR for the proposed Mission Bay project. The project consists of a new plan for developing the Mission Bay project area near the eastern shoreline of the City, about 1 mile (1.6 km) south of the downtown financial district and about 3.5 miles (5.6 km) north/northwest of HPS. The plan calls for mixed-use development, which would include retail space, a University of California San Francisco extension campus for instruction and research, support space, light manufacturing, public school, hotel, police and fire stations, and residential units. The Mission Bay project also includes a revised transportation network, consisting of a series of new east-west streets, an extension of Owens Street north and east to connect to Third Street, and realignment and extension of Fourth Street south to Mariposa Street (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1998). Traffic impacts associated with the Mission Bay Project were incorporated into the traffic analysis for HPS.

Other Possible Network Changes

In addition to the network changes described above that have been funded and/or approved, there are several other changes that have been proposed and may be implemented by 2010 or 2025. These possible changes include reconfiguration of local roadways near 3Com Park. As proposed by the San Francisco 49ers, the revised roadway configuration would create a "ring-road" around a proposed stadium and mall development, referred to as the Candlestick Point Retail/Entertainment Center, and would constrain and/or reconfigure access via Jamestown Avenue. Upgrading intersections and traffic signals along Harney Way between the freeway and Candlestick Point are also proposed, and the City of Brisbane is advocating construction of a new freeway interchange with an extension of Geneva Avenue and an intermodal station on the Brisbane Baylands parcel. In addition to potentially serving this proposed intermodal station, CalTrain is proposing track rehabilitation projects along its line and may consider relocation of some existing stations.

The Yosemite Slough Bridge project consists of constructing a bridge that would provide an additional access route to HPS from the south. The bridge would connect the HPS South Gate at the Crisp/Griffith intersection to U.S. 101 via traffic corridors along Griffith Street, Hunters Point Parkway, and Harney Way. With construction of the bridge, Carrol Avenue would be extended from Third Street to Bayshore Boulevard to allow access to U.S. 101 at Bayshore Boulevard. This proposal (the bridge and Carrol Avenue extension) is the subject of an ongoing feasibility study but has not yet been programmed a funded in the Regional Transportation Improvement Program (RTIP).

The Port of San Francisco is also studying the feasibility of an additional bridge for rail service across Islais Creek. This bridge is also not funded or programmed at this time.

3.1.5 Future Baseline Traffic Conditions

Intersections

Future baseline traffic conditions (without reuse of HPS) for the 16 intersections discussed in Section 3.1.3 are estimated for the years 2010 and 2025 based on the methodology described in Section 3.1.2. Table 3.1-6 shows that 13 of the 16 intersections would operate at LOS C or better in the A.M. and P.M. peak hours in both future baseline years.

At three intersections, outside of HPS, LOS would worsen from C to D. In 2010, the Third Street/Evans Avenue intersection would worsen from the existing condition (LOS C) to LOS D in the A.M. and P.M. peak hours. The Third Street/Cargo Way and Cesar Chavez Street/Evans Avenue intersections would worsen from LOS C to D in the A.M. peak hour.

In the year 2025, 14 of the 16 intersections would operate at LOS C or better. Cesar Chavez Street/Evans Avenue would operate at LOS D in both the A.M. and P.M. peak hours, and Third Street/Evans Avenue would operate at LOS D in the A.M. peak hour.

Note that at the time the HPS traffic analysis was performed (Appendix B), the Third Street LRT was not an approved project, and circulation changes included in that project were not included in the future background growth projections for the HPS analysis. The Third Street LRT has since been approved. Based on a comparison of the Third Street LRT analysis (U.S. Department of Transportation, Federal Transit Administration and City and County of San Francisco, Planning Department, 1998) and the HPS analysis (Appendix B, Technical Memorandum: Future Baseline Traffic Growth), it is likely that the Third Street/Cesar Chavez Street intersection would operate at worse than the LOS B shown in Table 3.1-6 for the A.M. and P.M. peak hours in both 2010 and 2025. However, future baseline LOS at this intersection with implementation of the Third Street LRT has not been calculated.

TABLE 3.1-6: FUTURE BASELINE INTERSECTION CONDITIONS

INTERSECTION	2010 BASELINE				2025 BASELINE			
	A.M. PEAK		P.M. PEAK		A.M. PEAK		P.M. PEAK	
	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS
Crisp Avenue/Spear Avenue*	3.0	A	2.8	A	3.0	A	2.8	A
Crisp Avenue/I Street*	NA	NA	NA	NA	NA	NA	NA	NA
Spear Avenue*/Galvez Avenue	NA	NA	NA	NA	NA	NA	NA	NA
Donahue Street*/Galvez Avenue	3.3	A	2.9	A	3.3	A	2.9	A
Innes Avenue/Donahue Street*	0.2	A	0.2	A	0.2	A	0.2	A
Donahue St*/Lockwood Street	3.5	A	3.5	A	3.5	A	3.5	A
Spear Avenue*/Lockwood Street	2.7	A	2.7	A	2.7	A	2.7	A
Evans Avenue*/Hunters Point Blvd.	6.0	B	8.0	B	6.0	B	8.0	B
Third Street/Evans Avenue	25.8	D	29.0	D	31.8	D	17.2	C
Third Street/Cargo Way	33.1	D	11.7	B	11.8	B	11.6	B
Third Street/Cesar Chavez St (1)	12.9	B	12.3	B	13.8	B	12.9	B
Cesar Chavez St/Evans Avenue	35.0	D	25.6	D	37.4	D	35.0	D
Evans Ave./Napolean & Tolano	6.3	B	6.3	B	6.4	B	6.5	B
Third Street/Carroll Avenue	5.6	B	5.8	B	5.7	B	5.8	B
Third Street/Gilman Avenue	11.5	B	9.3	B	11.2	B	9.5	B
Third Street/Palou Avenue	9.4	B	9.4	B	9.9	B	9.9	B

Source: San Francisco Redevelopment Agency, 1998.
Notes:
* Unsignalized intersections: minor street movement delay and LOS.
LOS = Level of Service
NA = not applicable
sec/veh = seconds per vehicle

Freeways Segments and Ramps

Future baseline traffic conditions for the three freeway segment screenlines would generally be similar to those discussed under existing conditions (Section 3.1.3). The v/c ratios generally would range between 0.70 and 0.90, which indicates that excess capacity would exist, although a large amount of the roadway capacity would be used (Table 3.1-7). I-280 south of U.S. 101 would be the exception, with high capacity (0.30 to 0.40) in the A.M. peak south-bound direction and P.M. peak north-bound direction in both future baseline years.

Most of the freeway ramps would continue to have low v/c ratios during peak hours under future baseline conditions, indicating available capacity on most freeway ramps (Table 3.1-8). However, conditions on three ramps with v/c ratios approaching 0.90 under existing conditions would worsen. In addition, the I-280 northbound on-ramp from Indiana Street would worsen from 0.84 to 0.88 v/c in the year 2025.

There are three reasons why freeway and ramp traffic volumes in the study area are not projected to substantially increase under future (2010 and 2025) baseline conditions. First, future growth, as modeled by regional planning agencies (Metropolitain Transportation Commission [MTC] and ABAG) is projected to occur primarily in outlying counties, such as Contra Costa and San Mateo, and not in the City, which is closer to full build-out. Second, access to these freeway segments is confined by bridge crossings (Bay, Golden Gate, San Mateo), which act as bottlenecks, and there are no plans for future bridge expansion or construction. Lastly, because the capacity of these freeways is quite high, the increase in traffic volumes due to future growth is not great enough to alter the ratio of volume to capacity on I-280 and U.S. 101.

3.1.6 Plans and Policies

Adopted transportation goals and policies that currently guide the City's transportation development are contained in the various elements and area plans that make up the City's General Plan. Adopted local plans and policies relevant to the transportation element of the Proposed Reuse Plan are described below.

Transportation Element of the City General Plan

The following policies under the City General Plan's Transportation Element are applicable to HPS:

- Give priority to public transit…as the means of meeting San Francisco's transportation needs, particularly those of commuters (General Policy 1.3).

TABLE 3.1.7: FUTURE BASELINE FREEWAY CONDITIONS

SCREENLINE LOCATION	DIRECTION	2010 BASELINE (NO ACTION ALTERNATIVE)				2025 BASELINE (NO ACTION ALTERNATIVE)			
		A.M. PEAK		P.M. PEAK		A.M. PEAK		P.M. PEAK	
		VOLUME	V/C RATIO	VOLUME	V/C RATIO	VOLUME	V/C RATIO	VOLUME	V/C RATIO
U.S. 101, at the San Francisco County Line (1)	Northbound	6,490	0.71	6,400	0.70	6,540	0.71	6,490	0.71
	Southbound	7,150	0.78	6,330	0.69	7,260	0.79	6,370	0.69
San Francisco/Oakland Bay Bridge (2)	Eastbound	9,670	0.84	9,910	0.86	11,390	0.99	10,650	0.93
	Westbound	11,070	0.96	9,270	0.81	11,030	0.96	10,350	0.90
I-280, south of U.S. 101 (3)	Northbound	7,610	0.83	3,950	0.43	7,670	0.83	3,950	0.43
	Southbound	3,350	0.36	8,430	0.92	3,350	0.36	8,500	0.92

Notes:

(1) = Caltrans traffic volumes, July 1993.

(2) = Alternatives to Replacement of the Embarcadero Freeway and the Terminal Separator Structure (City and County of San Francisco, Planning Department, 1996).

(3) = Caltrans traffic volumes, August 1993.

V/C ratio = volume-to-capacity ratio

TABLE 3.1.8: FUTURE BASELINE RAMP CONDITIONS

FRWY	ON-/OFF-RAMP		2010 BASELINE				2025 BASELINE			
			A.M. PEAK HOUR		P.M. PEAK HOUR		A.M. PEAK HOUR		P.M. PEAK HOUR	
			VOL	V/C	VOL	V/C	VOL	V/C	VOL	V/C
I-280	NB Off-ramp	to Cesar Chavez St.	540	0.32	345	0.20	550	0.32	355	0.21
	NB On-ramp	from Indiana St.	1,245	0.73	1,465	0.86	1,270	0.75	1,490	0.88
	SB Off-ramp	to Pennsylvania St.	575	0.34	825	0.48	590	0.35	840	0.49
U.S. 101	NB Off-ramp	to Bayshore Blvd./ Cesar Chavez St.	1,895	0.89	1,675	0.79	1,915	0.91	1,700	0.80
	NB On-ramp	from Bayshore Blvd. (Near Cesar Chavez St.)	1,185	0.70	715	0.42	1,210	0.71	725	0.43
	NB On-ramp	from Cesar Chavez St.	475	0.28	505	0.30	485	0.28	515	0.30
	SB Off-ramp	to Cesar Chavez St.	775	0.45	205	0.12	790	0.46	210	0.12
	NB Off-ramp	to Third St./ Bayshore Blvd.	1,930	0.91	885	0.42	1,970	0.93	905	0.42
	NB On-ramp	from Third St./ Bayshore Blvd.	640	0.38	505	0.30	650	0.38	515	0.30
	SB Off-ramp	to Bayshore Blvd./ Third St.	755	0.45	735	0.43	770	0.45	750	0.44
	SB On-ramp	from Bayshore Blvd./ Third St.	730	0.43	1,504	0.88	745	0.44	1,535	0.90

Notes:

(1) These volumes do not include potential traffic generated by the Candlestick Point Retail/Entertainment Center Project.

NB = northbound

SB = southbound

VOL = volume

V/C = volume-to-capacity ratio

- Coordinate regional and local transportation systems and provide for interline transit transfers (General Policy 1.5).

- Provide incentives for the use of transit, carpools, vanpools, walking, and bicycling and reduce the need for new or expanded automobile and automobile parking facilities (General Policy 2.5).

- In conversion and reuse of inactive military bases, provide for a balanced, multi-modal transportation system that is consistent with and complementary to the planned land use and the local and regional transportation system (General Policy 2.6).

- Designate expeditious routes for freight trucks between industrial and commercial areas and the regional and state freeway system to minimize conflicts with automobile traffic and incompatibility with other land uses (Regional Policy 6.1).

- Ensure that the Coast Trail, Bay Trail, and Ridge Trail remain uninterrupted and unobstructed where they pass through San Francisco (Regional Policy 8.1).

- Maintain public transit as the primary mode of transportation in San Francisco and as a means through which to guide future development and improve regional mobility and air quality (Congestion Management, Transit First Objective 11).

- Implement private and public sector Transportation Demand Management (TDM) programs that support each other and explore opportunities for private-public responsibility in program implementation (Transportation Demand Management Policy 12.3).

- Reduce peak period congestion through the promotion of flexible work schedules at work sites throughout the City (Transportation Systems Management Policy 14.6).

- Reduce parking demand through the provision of incentives for the use of carpools and vanpools at new and existing parking facilities throughout the City (Parking Management Policy 16.3).

- Use the Street Hierarchy System of the Transportation Element as the foundation for any national, state, regional, and local network of streets and highways in San Francisco (Vehicle Circulation Policy 18.6).

- Improve inter-district and intra-district transit service (Mass Transit Policy 20.9).

- Provide transit service from residential areas to major employment centers outside the downtown area (Mass Transit Policy 21.1).

- Support pedestrian needs by incorporating them into regular short-range and long-range planning activities for all City and regional agencies, and include pedestrian facility funding in all appropriate funding requests (Pedestrian Policy 23.8).
- Expand and improve access for bicycles on City streets (Bicycles Policy 27.1).
- Identify and expand recreational bicycling opportunities (Bicycles Policy 27.9).
- Support urban goods movement networks in San Francisco, especially in the areas reserved for industrial development and in neighborhood commercial districts (Urban Goods Movement Policy 36.1).
- Establish and maintain advisory truck routes, with clear signage, between industrial areas and freeway interchanges to enhance truck access and to clearly and visibly attract truck traffic away from residential neighborhoods (Urban Goods Movement Policy 39.1).
- Eliminate hazards to bicyclists on city streets (Bicycle Policy 27.3).
- Make available bicycle route and commuter information and encourage increased use of bicycles (Bicycle Policy 27.5).
- Accommodate bicycles in the design and selection of traffic control facilities (Bicycle Policy 27.10).
- Provide secure bicycle parking in new governmental, commercial, and residential developments (Bicycle Policy 28.1).
- Provide parking facilities which are safe, secure, and convenient (Bicycle Policy 28.3).

San Francisco Bicycle Plan

The *San Francisco Bicycle Plan* (City and County of San Francisco, Department of Parking and Traffic, 1997b) presents City policies, procedures, practices, infrastructure capabilities, and constraints that affect bicycling. The fundamental goal of the *Bicycle Plan* is to guide the City in becoming more "bicycle friendly."

3.2 AIR QUALITY

This section describes air quality conditions in the HPS vicinity and region. The ROI for air quality varies with the type of air pollutant under discussion. Pollutants that are directly emitted (such as carbon monoxide and some particulate matter) have a localized ROI generally restricted to areas in the immediate vicinity of the emission source. Pollutants produced by chemical reactions in the atmosphere (such as ozone and secondary pollutant matter) have an ROI that includes the entire San Francisco Bay Area.

Air quality issues are of particular concern in the Bayview-Hunters Point area because of the assumed link between environmental factors and high incidences of respiratory illnesses (e.g., asthma) and certain types of cancer. Recent health studies conducted by the San Francisco Department of Public Health (DPH) and others have evaluated this neighborhood's high incidences of respiratory and other illnesses (Glazer, et al. 1998; Aragon and Grumback, 1997). The first study concluded that, for the period 1991 to 1992, neighborhood residents had among the highest hospitalization rates in all age groups in the State of California for asthma, hypertension, congestive heart failure, and diabetes mellitus. The study also showed high rates of cancer, breast cancer mortality, and other causes of death, and concluded that "the poor health status of residents in BVHP [Bayview-Hunters Point neighborhood] reflects, in large part, racial disparities in health status among San Francisco residents." The second study showed that cancer incidence during the 1993 to 1995 period was not meaningfully higher among the neighborhood population than among their counterparts in the rest of the Bay Area. Public concerns regarding human health and potential environmental factors persist, however, and are attributed to the concentration of air polluting industries in the neighborhood.

3.2.1 Climate and Meteorology

Prevailing winds are from the west. Average wind speeds are 7 to 10 mph (11 to 16 km per hour) during the winter and 12 to 14 mph (19 to 22.5 km per hour) during the summer (U.S. Navy, 1994c). Strong winds greater than 20 mph (32 km per hour) occur occasionally in the winter and are common in the summer.

According to location-specific data reported by the California Energy Commission (CEC) in 1995, winds in the vicinity of HPS blow mostly from the west in March through October and are more variable from November through February. During the latter period, winds blow mostly from the north, southeast and west (CEC, 1995). There is no evidence available to suggest that this area experiences more or less mixing of air and dispersion of air pollutants than other areas of the City.

3.2.2 Ambient Air Quality Standards

Both the Federal government and the State of California have established air quality standards for various pollutants. Pollutants covered by Federal or state ambient air quality standards often are referred to as criteria pollutants. Table 3.2-2 lists criteria pollutants and ambient standards. Ambient air quality standards are designed to protect segments of the population most susceptible to the pollutants' adverse effects (e.g., the very young, the elderly, people weak from illness or disease, or persons doing heavy work or exercise), as well as to avoid exceeding nuisance dust standards. The potential human health effects of the major criteria air pollutants are presented in the Table 3.2-1 below.

TABLE 3.2-1

HEALTH EFFECTS SUMMARY OF THE MAJOR CRITERIA AIR POLLUTANTS

Air Pollutant	Health Effects
Ozone	Eye irritation. Respiratory function impairment
Carbon Monoxide	Impairment of oxygen transport in the bloodstream, increase of carboxyhemoglobin. Aggravation of cardiovascular disease. Impairment of central nervous system function. Fatigue, headache, confusion and dizziness. Can be fatal in the case of very high concentrations in enclosed places.
Inhalable Particulate Matter (PM_{10})	Altered lung function in children. With SO_x might produce acute illness.
Fine Particulate Matter ($PM_{2.5}$)	May be inhaled and possibly lodge in and/or irritate the lungs.
Nitrogen Dioxide	Risk of acute and chronic respiratory illness.
Sulfur Dioxide	Aggravation of chronic obstruction lung disease. Increased risk of acute and chronic respiratory illness.

Sources: Bay Area Air Quality Management District Air Quality Handbook, 1993; Zanneri, Paola, *Air Pollution Modeling*, 1990, as referenced in City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1998.

In July 1997, the U.S. Environmental Protection Agency (U.S. EPA) promulgated new standards for both ozone and particulate matter. The U.S. EPA's new ozone standard is 0.08 parts per million (ppm), averaged over 8 hours, rather than the previous 0.12 ppm, averaged over 1 hour. Under the new ozone standard, it will be much more difficult for the Bay Area to achieve compliance. The former particulate standards limited concentrations of Inhalable Particulate Matter (PM_{10}). Due to increased concern over

TABLE 3.2-2: AMBIENT AIR QUALITY STANDARDS APPLICABLE IN CALIFORNIA

POLLUTANT	SYMBOL	AVERAGING TIME	STANDARD, AS PARTS PER MILLION BY VOLUME		STANDARD, AS MICROGRAMS PER CUBIC METER		VIOLATION CRITERIA	
			CALIFORNIA	NATIONAL	CALIFORNIA	NATIONAL	CALIFORNIA	NATIONAL
Ozone	O_3	8 Hours	---	0.08	---	160	---	If exceeded by the mean of annual 4th highest daily values for a 3-year period.
		1 Hour	0.09	0.12	180	235	If exceeded.	If exceeded on more than 3 days in 3 years.
Carbon Monoxide	CO	8 Hours	9.0	9	10,000	10,000	If exceeded.	If exceeded more than 1 day per year.
		1 Hour	20	35	23,000	40,000	If exceeded.	If exceeded more than 1 day per year.
Inhalable Particulate Matter	PM_{10}	Annual Geometric Mean	----	----	30	---	If exceeded.	---
		Annual Arithmetic Mean	-----	----	---	50	---	If exceeded.
		24 Hours	-----	----	50	150	If exceeded.	If exceeded more than 1 day per year.
Fine Particulate Matter	$PM_{2.5}$	Annual Arithmetic Mean	---	---	---	15	---	If exceeded as a 3-year spatial average of data from designated stations.
		24 Hours	---	---	---	65	---	If exceeded by the mean of annual 98th percentile values over 3 years.
Nitrogen Dioxide	NO_2	Annual Average	-----	0.053	---	100	---	If exceeded.
		1 Hour	0.25	---	470	----	If exceeded.	---
Sulfur Dioxide	SO_2	Annual Average	-----	0.03	---	80	---	If exceeded.
		24 Hours	0.04	0.14	105	365	If exceeded.	If exceeded more than 1 day per year.
		1 Hour	0.25	----	655	---	If exceeded.	---
Lead particles	Pb	Calendar Quarter	-----	-----	---	1.5	If equaled or exceeded.	If exceeded more than 1 day per year.
		30 Days	-----	-----	1.5	---		

TABLE 3.2-2: AMBIENT AIR QUALITY STANDARDS APPLICABLE IN CALIFORNIA (CONTINUED)

POLLUTANT	SYMBOL	AVERAGING TIME	STANDARD, AS PARTS PER MILLION BY VOLUME		STANDARD, AS MICROGRAMS PER CUBIC METER		VIOLATION CRITERIA	
			CALIFORNIA	NATIONAL	CALIFORNIA	NATIONAL	CALIFORNIA	NATIONAL
Sulfate Particles	SO_4	24 Hours	-----	----	25	---	If equaled or exceeded.	---
Hydrogen Sulfide	H_2S	1 Hour	0.03	----	42	---	If equaled or exceeded.	---
Vinyl Chloride	C_2H_3Cl	24 Hours	0.010	----	26	---	If equaled or exceeded.	---

Source:

California Air Resources Board, 1991. State and National Ambient Air Quality Standards (ARB Fact Sheet 39). Title 40 of the Code of Federal Regulations (C.F.R.) § 50, 53, and 58.

Notes:

All standards except the national PM_{10} and $PM_{2.5}$ standards are based on measurements corrected to 25 degrees Celcius (°C) and 1 atmosphere pressure.
The national PM_{10} and $PM_{2.5}$ standards are based on direct flow volume data without correction to standard temperature and pressure.
Decimal places shown for standards reflect the rounding precision used for evaluating compliance.
Except for the 3-hour sulfur dioxide standard, the national standards shown are the primary (health effects) standards.
The national 3-hour sulfur dioxide standard is a secondary (welfare effects) standards.
U.S. EPA adopted new ozone and particulate matter standards on July 18, 1997; the new standards became effective on September 16, 1997.
The national 1-hour ozone standard will be rescinded for an area when U.S. EPA determines that the standard has been achieved in that area.
Previous national PM_{10} standards (which had different violation criteria than the September 1997 standards) will remain in effect for existing PM_{10} nonattainment areas until U.S. EPA takes actions required by Section 172(e) of the Clean Air Act or approves emission control programs for the relevant PM_{10} state implementation plan.
Violation criteria for all standards except the national annual standard for $PM_{2.5}$ are applied to data from individual monitoring sites.
Violation criteria for the national annual standard for $PM_{2.5}$ are applied to a spatial average of data from one or more community-oriented monitoring sites representative of exposures at neighborhood or larger spatial scales (40 CFR § 58).
The "10" in PM_{10} and the "2.5" in $PM_{2.5}$ are not particle size limits; these numbers identify the particle size class (aerodynamic equivalent diameters in microns) collected with 50 percent mass efficiency by certified sampling equipment. The maximum particle size collected by PM_{10} samplers is about 50 microns aerodynamic equivalent diameter; the maximum particle size collected by $PM_{2.5}$ samplers is about 6 microns aerodynamic equivalent diameter (40 CFR § 53).

finer particulate matter being responsible for health impacts, the new standards limit concentrations of Fine Particulate Matter ($PM_{2.5}$). The new standard would have been implemented in 2000, with attainment status based on 1997, 1998, and 1999 monitoring data. However, the $PM_{2.5}$ and 8-hour ozone standards were struck down in Federal court; U.S. EPA has appealed (U.S. EPA, 1999). Implementation of the new standards will be delayed until the legal challenge is resolved.

3.2.3 Toxic Air Contaminants

Definition

Toxic air contaminants are a category of air pollutants that may cause or contribute to an increase in mortality or serious illness or that may pose a present or potential hazard to human health. Adverse health effects of toxic air contaminants may be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, or long-term (chronic) noncarcinogenic. Several hundred such pollutants are regulated by various Federal, state, and local programs, as described in Section 3.2.6, but there are no ambient air quality standards for these materials.

Monitoring

On August 27, 1998, the California Air Resources Board (CARB) formally identified particulate matter emitted by diesel-fueled engines as a toxic air contaminant. The CARB action will lead to additional control of diesel engine emissions in coming years by CARB. The U.S. EPA has also begun an evaluation of both the cancer and non-cancer health effects of diesel exhaust (Port of Oakland, 1998).

Because of the growing interest in long-term population exposures to toxic compounds, the Bay Area Air Quality Management District (BAAQMD) implemented various air toxic monitoring programs in 1985. The BAAQMD's toxics network initially began with 5 sites but has now expanded by 11 sites. This network of 16 stations constitutes the largest toxic air contaminant network on a systematized schedule in the nation. In addition to monitoring toxic compounds at the 16 stations, sampling for the heavy metals lead, nickel, manganese, and total chromium is carried out at 5 CARB sites in Fremont, Richmond, Concord, San Francisco, and San Jose.

Stationary Sources

The BAAQMD's 1997 annual report on the toxic air contaminant control program (BAAQMD, 1998) shows that the City has a relatively low number of stationary sources emitting reportable quantities of hazardous air pollutants. Most of the listed toxic air contaminant emission sources in the City are dry cleaners. The BAAQMD 1997 annual report covers 70 toxic air contaminants, 43 of which have at least one stationary source of reportable size in the Bay Area. Only 13 of the 70 toxic air contaminants listed in the

BAAQMD 1997 annual report have stationary sources of reportable size within the City. Stationary sources of toxic air contaminant emissions in the City make a disproportionately low contribution to regional toxic air contaminant emissions for 11 of the 13 substances.

The City accounts for 11.8 percent of the population and 17.7 percent of the employment in the Bay Area, but City sources account for less than 1 percent of regional stationary source emissions for 6 toxic air contaminants, 1 to 5 percent of regional emissions for 3 toxic air contaminants, 6 to 11 percent of regional emissions for 2 toxic air contaminants, and about 18 percent of regional emissions for 1 toxic air contaminant. Only in the case of one substance (benzyl chloride) does the City make a disproportionately large contribution to regional toxic air contaminant emissions. That case involves a situation where there are only two stationary emission sources for the substance in the entire nine-county region.

There are approximately 26,000 sources of regulated air pollutants currently operating under BAAQMD permits. All new sources and existing sources wishing to make modifications to their operations are subject to a risk screening process. Established trigger levels are applied to evaluate potential risks.

3.2.4 Existing Air Quality Conditions

Ozone, carbon monoxide, and PM10 are the air pollutants of greatest local concern and are monitored at a number of locations in the San Francisco Bay Area. The monitoring station closest to HPS is on Arkansas Street between U.S. 101 and I-280, south of Sixteenth Street, approximately 2.5 miles (4 km) northwest of HPS. This station is the major monitoring location for San Francisco, and data from this station can be reliably used to characterize area-wide air quality; more site-specific data for HPS are not available. Carbon monoxide levels in the City are monitored at the Arkansas Street station and at the BAAQMD office on Ellis Street. Table 3.2-3 summarizes recent air quality monitoring data for ozone, carbon monoxide, and PM10. Most of the data shown were collected at the Arkansas Street station; these data are comparable to data collected by Pacific Gas & Electric (PG&E) at its Hunters Point Power Station (CEC, 1995).

Table 3.2-3 indicates that Federal and state standards for ozone and carbon monoxide were not violated in San Francisco between 1991 and 1997. The 1997 Clean Air Plan (BAAQMD, 1997) identifies the City as having the lowest exposure to ozone of any county in the Bay Area. However, ozone standard violations occurred in other parts of the San Francisco Bay Area (Alameda, Contra Costa, and Santa Clara Counties) in 1995 and 1996. In June 1998, these violations resulted in U.S. EPA redesignating the Bay Area as a nonattainment area for ozone.

TABLE 3.2-3: SUMMARY OF RECENT AIR QUALITY MONITORING DATA FOR SAN FRANCISCO

MONITORING STATION	PARAMETER	1991	1992	1993	1994	1995	1996	1997
OZONE								
San Francisco - Arkansas St.	Peak 1-hour value (ppm)	0.05	0.08	0.08	0.06	0.09	0.07	0.07
	Days above Federal standard	0	0	0	0	0	0	0
	Days above state standard	0	0	0	0	0	0	0
CARBON MONOXIDE								
San Francisco - Arkansas St.	Peak 1-hour value (ppm)	9.0	8.0	7.0	6.0	5.0	5.0	5.0
	Peak 8-hour value (ppm)	6.5	6.4	5.1	4.5	4.4	3.9	3.5
	Days above Federal standard	0	0	0	0	0	0	0
	Days above state standard	0	0	0	0	0	0	0
San Francisco - Ellis St.	Peak 1-hour value (ppm)	14.0	10.0	10.0	8.0	9.0	9.0	8.0
	Peak 8-hour value (ppm)	8.4	7.4	6.9	5.4	5.5	5.6	5.8
	Days above Federal standard	0	0	0	0	0	0	0
	Days above state standard	0	0	0	0	0	0	0
INHALABLE PARTICULATE MATTER (PM_{10})								
San Francisco - Arkansas St.	Peak 24-hour value ($\mu g/m^3$)	109	81	69	93	50	71	81
	Annual geometric mean ($\mu g/m^3$)	29.7	27.6	25.1	24.7	22.1	21.4	22.5
	Annual arithmetic mean ($\mu g/m^3$)	34.9	31.6	28.8	28.0	24.9	24.3	25.0
	Number of 24-hour samples	60	61	61	61	61	61	61
	% of samples above Federal standard	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	% of samples above state standard	25.0%	14.8%	8.2%	9.8%	0.0%	3.3%	4.9%

Source:

California Air Resources Board, 1991, 1992, 1994, 1994, 1995, 1996, and 1997.
Bay Area Air Quality Management District, 1994.

Notes:

ppm = parts per million by volume.
$\mu g/m^3$ = micrograms per cubic meter.
Based on Federal 1-hour ozone standard of 0.12 ppm; state 1-hour ozone standard of 0.09 ppm.
Federal 1-hour carbon monoxide standard is 35 ppm; state 1-hour carbon monoxide standard is 20 ppm.
Federal 8-hour carbon monoxide standard is 9 ppm; state 8-hour carbon monoxide standard is 9.0 ppm.
Federal PM_{10} standards: 50 $\mu g/m^3$, annual arithmetic mean; 150 $\mu g/m^3$, 24-hour average.
State PM_{10} standards: 30 $\mu g/m^3$, annual geometric mean; 50 $\mu g/m^3$, 24-hour average.

The Federal PM_{10} standard was not exceeded in the City between 1991 and 1997, but the more stringent state PM_{10} standards were exceeded at the Arkansas Street station several times each year (except in 1995). Current air quality standards for particulate matter are based on the inhalable component of suspended PM_{10}.

3.2.5 Existing Emission Sources at Hunters Point Shipyard

Navy has not operated any stationary emission sources at HPS since 1974, and all Navy air permits have been terminated (U.S. Navy, 1998e). Current operations by tenants include the work of environmental testing laboratories, storage facilities and vehicle storage, cabinet making, paint booths, refrigeration, manufacturing, auto body work, scrap metal recycling, and other work. A list of current HPS tenants is presented in Appendix C.

Most existing tenant uses at HPS are not significant sources of emissions. Only one tenant, Astoria Metals Corporation at Drydock 4, conducts activities requiring a BAAQMD Permit to Operate (PTO). HPS tenants have responsibility for obtaining all required permits from the BAAQMD.

In addition to permitted stationary emission sources, diesel trucks and other vehicles operating at HPS contribute to carbon monoxide, nitrogen oxides (NO_x), sulfur oxides (SO_x), PM_{10}, and toxic air contaminant emissions.

3.2.6 Plans and Policies

Federal Requirements

The Federal Clean Air Act (CAA), as amended, 42 United States Code Annotated (U.S.C.A.) §§ 7401-7671g (West, 1995 and Supp. 1998), requires each state to develop, adopt, and implement a state implementation plan (SIP) to achieve, maintain, and enforce Federal air quality standards. These plans must be submitted to and approved by the U.S. EPA. In California, the SIP consists of separate elements for different regions of the state. SIP elements generally are developed on a pollutant-by-pollutant basis whenever an air quality standard is being violated.

Local councils of government and air pollution control districts have had the primary responsibility for developing and adopting the regional elements of the California SIP. In the San Francisco Bay region, SIP document preparation has been a coordinated effort involving three regional agencies: BAAQMD, ABAG, and MTC. The regional component of the California SIP document for the San Francisco Bay Area is commonly known as the Bay Area Clean Air Plan.

The CAA imposes deadlines for achieving the Federal ambient air quality standards. These deadlines vary according to the severity of air quality problems. The San

Francisco Bay Area was reclassified in July 1998 from a maintenance area to a nonattainment area for the Federal one-hour ozone standard (nonattainment areas are areas that violate Federal or state ambient air quality standards, whereas maintenance areas are areas that maintain Federal or state air quality standards). This classification will last into 2000. In April 1998, the Bay Area was redesignated to attainment for the Federal eight-hour carbon monoxide standard. The Bay Area is currently designated as unclassified for the Federal PM_{10} standard.

Section 176(c) of the CAA, 42 U.S.C.A. § 7506(c), requires Federal agencies to comply with the CAA and with Federally enforceable air quality management plans. The U.S. EPA has enacted separate rules that establish conformity analysis procedures for highway and mass transit projects and for other (general) Federal agency actions.

A formal conformity determination is required for Federal actions in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. Federal nonattainment and maintenance pollutants subject to conformity analysis in the San Francisco Bay Area are ozone precursors (reactive organic compounds and NOx) and carbon monoxide. Applicable threshold levels for Federal actions in the San Francisco Bay Area are 100 tons (91 metric tons) per year of reactive organic compounds, 15 tons (14 metric tons) per year of NOx or 80 pounds (36 kg) per day, and 100 tons (91 metric tons) per year of carbon monoxide (BAAQMD, 1996).

Federal actions, such as transfers of ownership, interests, and titles to real or personal property, to other non-Federal public agencies are exempt from the U.S. EPA's general conformity rule, because such actions are presumed to result in emissions below the threshold level. This is because the agency transferring the property does not retain responsibility or control over subsequent activities.

State Requirements

Air pollution control programs were established in California in the late 1940s to early 1950s before the enactment of Federal requirements. Responsibility for air quality management programs in California is divided between the CARB, the primary state air quality management agency, and air pollution control districts, the primary local air quality management agencies. CAA legislation in the 1970s resulted in a gradual merger of local and Federal air quality programs, particularly industrial source air quality permit programs.

The roles and responsibilities of both CARB and local air pollution control districts were expanded by the California Clean Air Act of 1988, 1988 Cal. Stat. 1568, Cal. Health and Safety Code § 39607 note (West, 1996). This act adopted transportation control measure programs and emission reduction programs for indirect and area-wide emission sources. Local air pollution control districts have been given added responsibility and authority to adopt transportation control measure programs and emission reduction programs for indirect and area-wide emission sources.

The California Clean Air Act requires air pollution control districts and air quality management districts to develop air quality management plans for meeting state ambient air quality standards for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide. CARB is responsible for developing a plan for meeting state PM_{10} standards.

Under the California Clean Air Act, attainment is required "as expeditiously as practicable," with mandated emission control program requirements based on the nonattainment classification for ozone and carbon monoxide. The entire San Francisco Bay Area is classified as a moderate nonattainment area for the state ozone standard and as an attainment area for state carbon monoxide standards.

Air Quality Permits

Some industrial and commercial facilities require air quality permits for equipment and operations. The BAAQMD has the primary air quality permit authority throughout the San Francisco Bay Area. CARB has oversight authority over the BAAQMD. In cases involving Federal actions, U.S. EPA has oversight authority over BAAQMD. Permits are categorized as construction or installation authorizations for individual pieces of equipment or as permits for continued operation of equipment and facilities.

Federally required air quality permit programs are integrated into the state and local permit programs. This results in a two-step permit process: an initial authority to construct (ATC) permit and a subsequent PTO.

Toxic Air Contaminants

Stationary Sources

Federal Requirements. Under Title III of the 1990 CAA, the number of regulated toxic substances was expanded to 189 compounds. The U.S. EPA was directed to develop standards for toxic air pollutants, including consideration of economic issues in the control criteria, and to investigate the exposure risk from toxic air contaminants in urban areas.

State Requirements. CARB is responsible for identifying specific toxic air contaminants through research and evaluation. Assembly Bill (AB) 2728 mandated state recognition of the 189 toxic air contaminants identified by the 1990 CAA amendments. The Air Toxics "Hot Spots" Information and Assessment Act, California Health and Safety Code

§§ 44300-44394, required that toxic risk assessments include the toxic air contaminants specified in the Risk Assessment Guidelines of the California Air Pollution Control Officers Association (CAPCOA). CARB has identified over 729 toxic air contaminants (including the 189 Federal hazardous air pollutants) as part of the "Hot Spots" Act.

Air Quality Permits. BAAQMD's current risk management policy requires that any incremental increase in emissions of toxic air contaminants from new or modified stationary sources be evaluated for human health impacts, especially cancer risk, using the CAPCOA guidelines. Some sources may be exempt if emissions of toxic air contaminants are below certain annual emission levels set by the BAAQMD.

The BAAQMD risk criteria allow a permit to be granted for a new or modified stationary source if the source meets either of the following health impact criteria:

- The estimated incremental cancer risk from the project is less than one in one million, and the noncancer risk is below U.S. EPA's guidance levels.
- The estimated cancer risk is less than ten in one million, the noncancer risk is less than U.S. EPA's guidance levels, and Best Available Control Technology for toxics will be applied.

The BAAQMD may deny the permit if the estimated cancer risk is greater than ten in one million or the noncancer risk is greater than U.S. EPA's guidance levels.

Mobile Sources

Vehicles emit toxic air contaminants, including benzene, polycyclic aromatic hydrocarbons, and formaldehyde. Currently, there is no regulatory guidance for determining the significance of toxic air contaminant emissions from mobile sources. There are no control requirements for toxic air contaminant emissions from mobile sources, except for lead. Lead was one of the first hazardous air pollutants to receive national attention in the 1970s. Since lead emissions can be extremely toxic, National Ambient Air Quality Standards (NAAQS) were developed to reduce the public's exposure under the CAA; therefore, lead has the dual distinction of being a criteria pollutant and a hazardous air pollutant/toxic air contaminant.

As new fuels are developed or other measures are implemented to reduce criteria pollutants, it is likely that toxic air contaminant emissions will decrease. Emission control measures for mobile sources typically have focused on vehicle emissions, fuel efficiency standards, and, more recently, on reformulation of fuels.

Local Policies

A new Air Quality Element of the City's General Plan was adopted in July 1997. Air quality objectives of this element include the following:

- Adhere to state and Federal air quality standards and regional programs (Objective 1).
- Reduce mobile sources of air pollution through implementation of the transportation element of the General Plan (Objective 2).
- Decrease the air quality impacts of development by coordinating land use and transportation decisions (Objective 3).
- Improve air quality by increasing public awareness regarding the negative health effects of pollutants generated by stationary and mobile sources (Objective 4).
- Minimize particulate matter emissions from road and construction sites (Objective 5).
- Link the positive effects of energy conservation and waste management to emission reductions (Objective 6).

3.3 NOISE

This section describes the noise conditions and applicable regulations for noise impacts at HPS. Due to the attenuation of noise levels with distance from the noise source, the ROI is the South Bayshore planning area. A more localized ROI is appropriate for some discrete noise sources. Such localized areas of influence are generally within 0.5 miles (0.8 km) of a noise source (California Department of Health Services, 1987).

3.3.1 Noise Measurements

Most sounds consist of a broad range of sound frequencies. Because the human ear is not equally sensitive to sound at all frequencies, noise is measured using the "A-weighted" decibel scale (dBA), which estimates the way the human ear responds to noise levels.

Average noise exposure over a 24-hour period is presented as a day-night average sound level (Ldn) or a Community Noise Equivalent Level (CNEL). Ldn values are calculated from hourly equivalent noise level (Leq) values, with the Leq values for the nighttime period (10:00 P.M. to 7:00 A.M.) increased by 10 decibels (dB) to reflect the greater disturbance potential from nighttime noises. Leq values are used to develop single-value descriptions of average noise exposure over various periods. CNEL values are very similar to Ldn values but include a 5-dB annoyance adjustment for evening Leq values (7:00 P.M. to 10:00 P.M.) in addition to the 10-dB adjustment for nighttime Leq values (City and County of San Francisco, Planning Department, 1995a).

3.3.2 Noise Conditions

The noise environment of the South Bayshore planning area is dominated by transportation noise sources, with highway traffic and aircraft overflights being the major contributors. Commuter rail operations and limited freight service contribute to background noise levels in areas adjacent to the CalTrain tracks.

While no current measurements of noise levels at HPS are available, the Environmental Protection Element of the City's General Plan, adopted in 1974, indicates that background Ldn levels at HPS are about 55 dB. Adjacent residential and commercial areas have somewhat higher background noise levels, with average Ldn levels of about 60 dB.

Noise monitoring was conducted along Third Street in the Bayview-Hunters Point area in July 1997 (U.S. Department of Transportation, Federal Transit Administration, and the City and County of San Francisco, Planning Department, 1998). The noise data indicate existing noise exposure to be relatively high along the Third Street corridor due to traffic on Third Street and other heavily traveled arterials. The Ldn for the segment of the Third Street corridor between the U.S. 101 overcrossing and Thomas Avenue was estimated at between 70 and 77 dBA. Ldn for the Third Street segment between Thomas Avenue and Jerrold Avenue was estimated at between 73 and 76 dBA. Noise at buildings one row behind Third Street was assumed to be 10 dB lower than along Third Street (U.S. Department of Transportation, Federal Transit Administration, and the City and County of San Francisco, Planning Department, 1998).

3.3.3 Plans and Policies

State Agency Guidelines

The California Department of Housing and Community Development has adopted noise insulation performance standards for new hotels, motels, and dwellings other than detached single-family structures. These standards (24 California Administration Code [Cal. Admin. Code] T25-28) require that hotels, motels, and multiple-unit dwellings be constructed so that outdoor noise sources do not cause interior noise levels to exceed an annual average CNEL value of 45 dB with the windows closed.

The California Department of Health Services (1987) has published guidelines for the noise element of local general plans. These guidelines include a noise level/land use compatibility chart that places various outdoor Ldn ranges into one of four compatibility categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable), depending on land use.

The California noise element guidelines chart identifies normally acceptable noise levels for low-density residential uses as Ldn values below 60 dB. The normally acceptable range for high-density residential uses is identified as Ldn values below 65 dB. For educational and medical facilities, Ldn values of 60 to 70 dB are identified as conditionally acceptable. For office and commercial land uses, Ldn values of 67.5 to 77.5 dB are categorized as conditionally acceptable. The distinction between normally and conditionally acceptable ranges is that under normally acceptable ranges, there are no conditions attached, and under conditionally acceptable ranges, conditions are attached.

Noise Element of the San Francisco General Plan

The Noise Element of the City's General Plan is contained in the Environmental Protection Element. The Noise Element focuses on transportation noise as the major noise source in San Francisco and contains land use compatibility guidelines consistent with state guidelines described above. Noise Element objectives and supporting policies that are potentially relevant to HPS include the following:

- Reduce transportation-related noise (Objective 9).
    - ◊ Retain and expand the electric trolley network (Policy 5).

- ◊ Discourage changes in streets that will result in greater traffic noise in noise-sensitive areas (Policy 6).

- Minimize the impact of noise on affected areas (Objective 10).
  - ◊ Promote site planning, building orientation and design, and interior layout that will lessen noise intrusion (Policy 1).
  - ◊ Promote the incorporation of noise insulation materials in new construction (Policy 2).
  - ◊ Construct physical barriers to reduce noise transmission from heavy traffic carriers (Policy 3).

- Promote land uses that are compatible with various transportation noise levels (Objective 11).
  - ◊ Discourage new uses in areas in which the noise level exceeds the noise compatibility guidelines for that use (Policy 1).
  - ◊ Consider relocating to more appropriate areas those land uses that need more quiet and cannot be effectively insulated from noise in their present location, as well as those land uses that are noisy and are presently in noise-sensitive areas (Policy 2).
  - ◊ Locate new noise-generating development so that the noise impact is reduced (Policy 3).

San Francisco Noise Ordinance

In addition to general policy guidance provided by the Noise Element of the General Plan, the City has adopted a noise ordinance (Article 29 of the Police Code) to regulate noise from fixed sources, portable equipment, garbage collection equipment, construction activities, motor vehicle operation when not on a public street or highway, and other sources of unnecessary, excessive, or offensive noise. The noise ordinance contains general nuisance abatement provisions and specific noise limitations that vary by zoning district, time of day, and type of noise source. The general noise limitations specified in the noise ordinance are summarized in Table 3.3-1. The noise ordinance contains exemptions for emergency work, emergency and safety signaling devices, and various types of impact tools, pavement breakers, and jackhammers. In addition, the ordinance provides for a variance process and a permit process for nighttime construction work.

TABLE 3.3-1: SUMMARY OF NOISE LIMITS ESTABLISHED IN THE SAN FRANCISCO NOISE ORDINANCE

NOISE SOURCE	APPLICABLE ZONING DISTRICT	TIME PERIOD	NOISE LIMITS
Construction Equipment and Activities	All Zoning Districts	7 A.M. - 8 P.M.	80 dBA at 100 feet (30 m); limit does not apply to impact tools/equipment
		8 P.M. - 7 A.M.	5 dBA above ambient at property line without special permit
Solid Waste Collection Equipment	All Zoning Districts	Any time	75 dBA at 50 feet (15 m)
Off-highway Vehicle Use	Public Zones	Any time	
Off-highway Vehicles			70 dBA at 50 feet (15 m)
Heavy Duty Vehicles			82 dBA at 50 feet (15 m)
Motorcycles			77 dBA at 50 feet (15 m)
Other Highway Vehicles			74 dBA at 50 feet (15 m)
Fixed Noise Sources	Low- and Medium-Density Residential Zones	7 A.M. - 10 P.M.	55 dBA at property line
		10 P.M. - 7 A.M.	50 dBA at property line
	High-Density Residential, Neighborhood Commercial, and Residential Commercial Zones	7 A.M. - 10 P.M.	60 dBA at property line
		10 P.M. - 7 A.M.	50 dBA at property line
	Commercial Zones	7 A.M. - 10 P.M.	70 dBA at property line
		10 P.M. - 7 A.M.	60 dBA at property line
	Light Industrial Zones	Any time	70 dBA at property line
	Heavy Industrial Zones	Any time	75 dBA at property line
Engine-powered Model Vehicle Use	Low- and Medium-Density Residential Zones	7 A.M. - 10 P.M.	55 dBA at 50 feet (15 m)
		10 P.M. - 7 A.M.	50 dBA at 50 feet (15 m)
	High-Density Residential, Neighborhood Commercial, and Residential Commercial Zones	7 A.M. - 10 P.M.	60 dBA at 50 feet (15 m)
		10 P.M. - 7 A.M.	50 dBA at 50 feet (15 m)
	Commercial Zones	7 A.M. - 10 P.M.	70 dBA at 50 feet (15 m)
		10 P.M. - 7 A.M.	60 dBA at 50 feet (15 m)
	Light Industrial Zones	Any time	70 dBA at 50 feet (15 m)
	Heavy Industrial Zones	Any time	75 dBA at 50 feet (15 m)
	Public Zones	Any time	80 dBA at 50 feet (15 m)

Source: San Francisco Police Code, Article 29.

3.4 LAND USE

This section describes existing HPS and surrounding land uses and applicable land use plans and policies. The ROI for land use is HPS and the South Bayshore planning area. Land use categories within the ROI are identified on Figure 3.4-1; prominent land use categories at HPS are identified on Figure 3.4-2.

3.4.1 HPS Land Use

HPS occupies approximately 936 acres (379 hectares [ha]), 493 acres (200 ha) of which are on dry land and 443 acres (179 ha) under water (U.S. Navy, 1994c). About 40 percent of HPS is used today, including less than a tenth of its waterfront. The structures at HPS reflect its history as a heavy industrial naval shipyard (Figure 3.4-3). Until its deactivation in 1974, HPS was used for ship-related industrial activities, with ancillary storage, administration, and institutional uses. Military family housing, along with bachelor quarters, also was provided at HPS. In 1976, Navy leased the land to Triple A Machine Shop, which, until the termination of the lease in 1986, subleased facilities to a variety of tenants.

The following description of HPS land use includes occupied and unoccupied buildings, as well as open space areas along the southern edge of HPS, in the hillside area, and near the main entrance. Areas between buildings generally are paved for parking or storage. Access to HPS is restricted and not available to the general public. Tenants and contractors obtain access through the Navy security office.

Industrial

The industrial land use category applies to about 289 acres (117 ha), as shown on Figure 3.4-2. Industrial and related uses at HPS occupy 58 buildings and include storage and trucking, light manufacturing, construction storage and shops, cabinetmaking and woodworking, testing laboratories, scrap metal recycling, an auto body shop, and vehicle storage by the San Francisco Police Department (SFPD). One lessee, the Golden Gate Railroad Museum, uses three buildings and a small railroad sorting yard for restoring and displaying historic trains. There are two maritime businesses among the industrial users: a marine rigger and a marine and industrial cleaning service (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1994). The Astoria Metal Corporation operates on 16.1 acres (6.5 ha) for industrial ship dismantling at and around Drydock 4 (City and County of San Francisco, Planning Department, 1995d).

Berthing space at HPS consists of piers, quay walls, and wharves; there are also repair berths. The quay wall at Point Avisadero (northeast corner of HPS), North and South Piers, and the Regunning Pier are the primary berthing areas. Smaller piers on the India

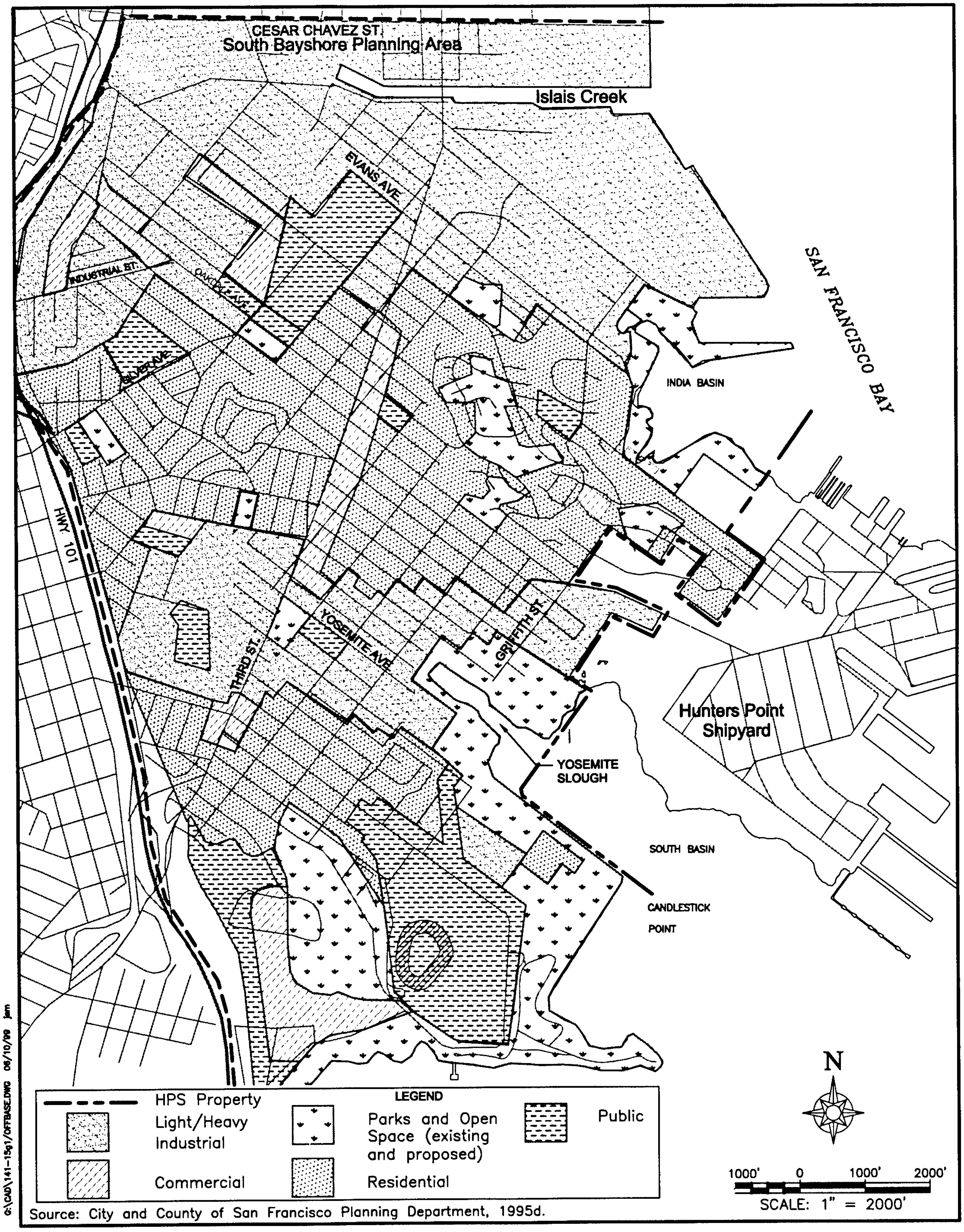
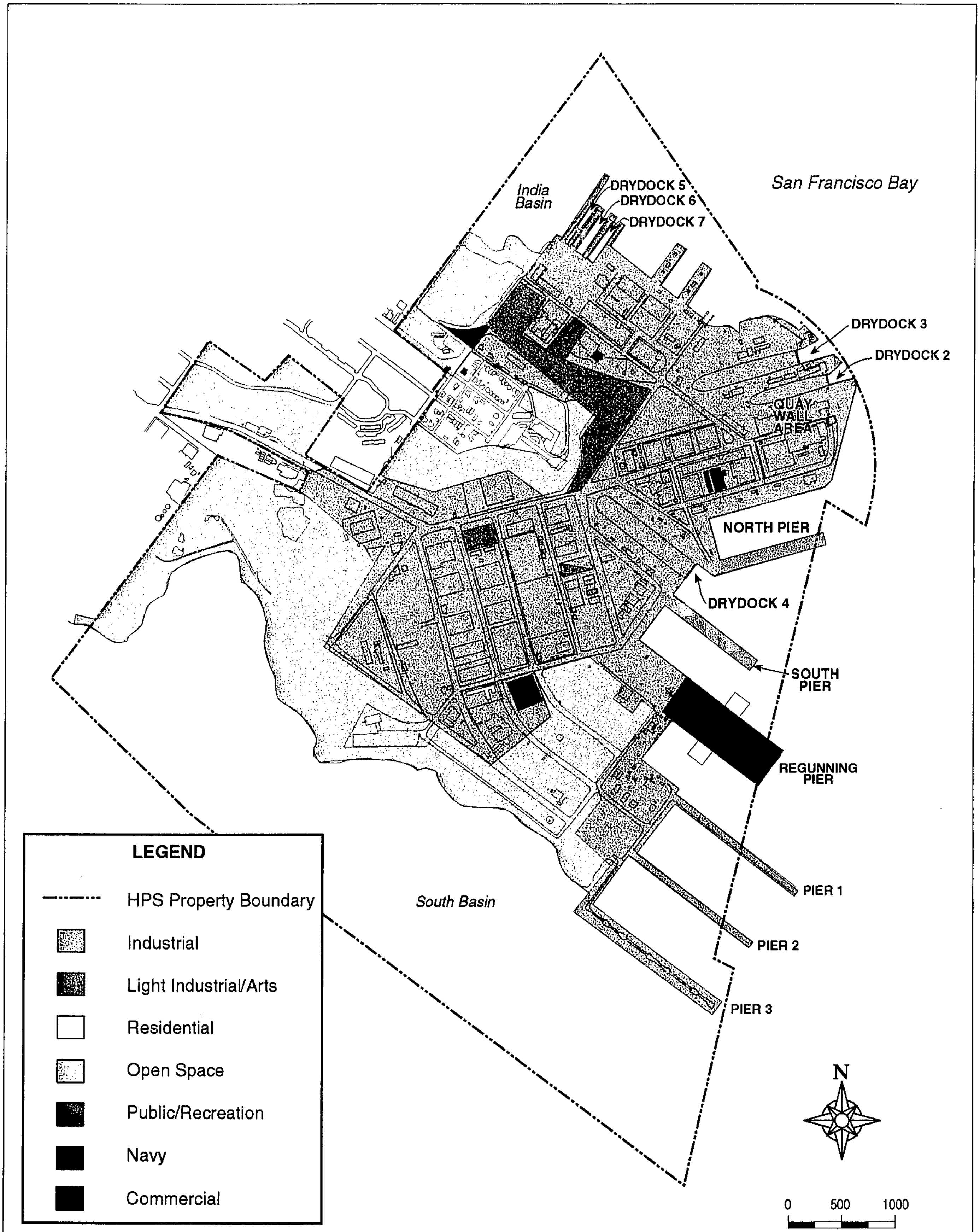


Figure 3.4-1: Existing South Bayshore Planning Area Land Use



Source: U.S. Navy, 1994c; TetraTech, 1996.

Prod.: 141-15 HP EIR/EIS/HP figures 98\141-15F Onbase 6/14/99 SK

Figure 3.4-2: Existing Land Uses

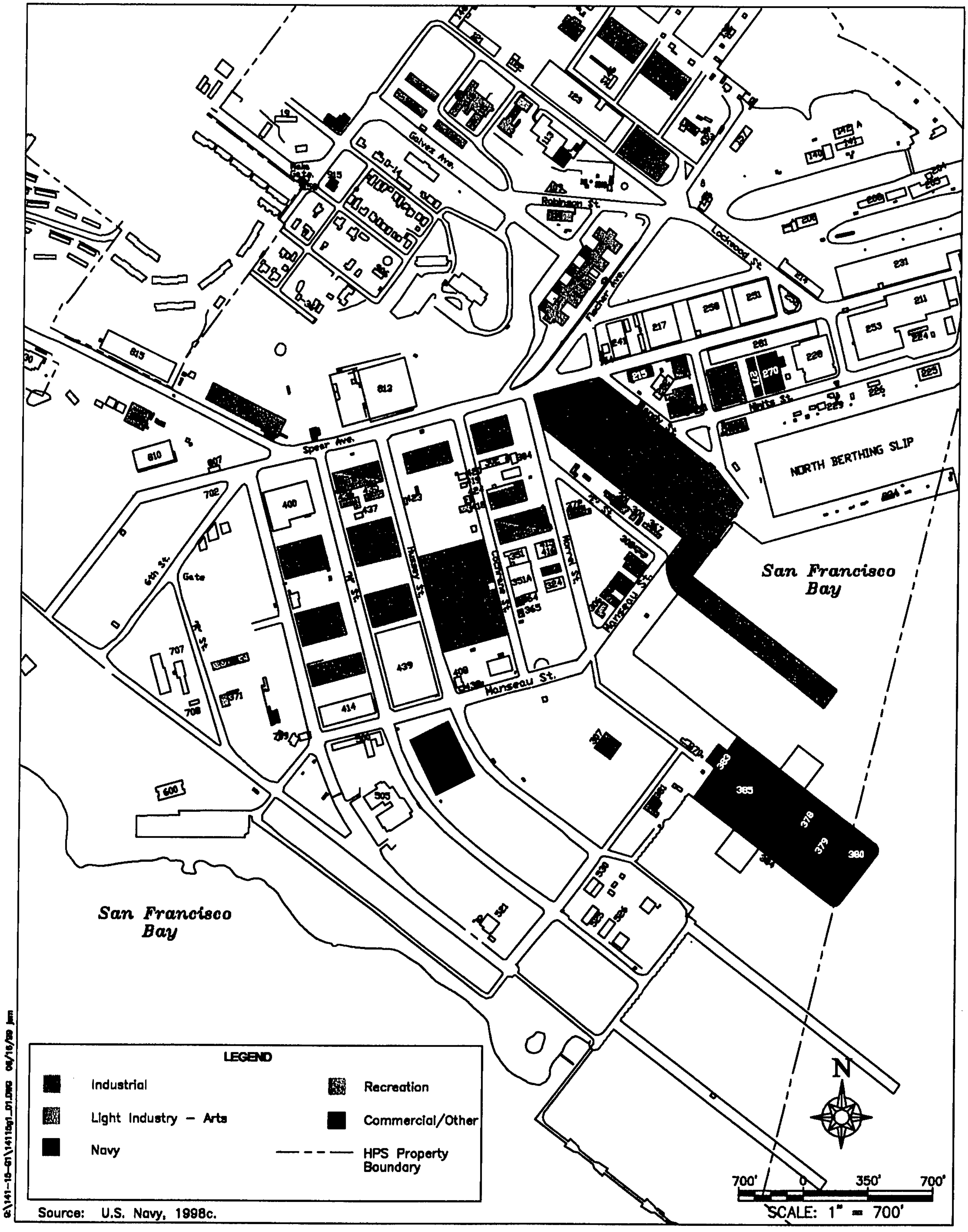


Figure 3.4-3: Existing Land Use by Building, Hunters Point Shipyard

Basin frontage supplement these berths. An additional 18 berths are at 3 piers in the southernmost portion of HPS.

There are six drydocks of various sizes at HPS. The largest are Drydocks 2, 3, and 4, with three smaller drydocks along the India Basin frontage (Figure 3.4-2). The smaller drydocks were used historically for submarine maintenance (City and County of San Francisco, Planning Department and San Francisco Redevelopment Agency, 1994).

Light Industrial/Arts

The light industrial/arts land use applies to about 14 acres (5.7 ha), as shown on Figure 3.4-2. Light industrial/artist uses occupy Buildings 101, 103, 104, 110, 115, 116, 117, 323, 366, 401, 435, and 436. There are 3 main leases for 561 studios used by 793 tenant-artists (City and County of San Francisco, Planning Department and San Francisco Redevelopment Agency, 1994).

Residential

There are four residential housing sites on about 16 acres (6.5 ha), as shown on Figure 3.4-2. These housing areas have not been used since 1974 and are deteriorated and uninhabitable. All residential areas at HPS are vacant.

Open Space

Undeveloped open space areas at HPS occupy about 164 acres (66 ha), as shown on Figure 3.4-2. This designation includes sites never developed and sites where development has been demolished. The largest area of undeveloped open space is along the southern shoreline of HPS, across from the Candlestick Point State Recreation Area. This area was created by fill in the 1940s and includes the former industrial landfill site (U.S. Navy, 1994c).

A smaller open space area is the undeveloped grassy edge of the hillside that separates the lower level of HPS from the upper hillside residential area. This area was created by cut and fill operations during HPS construction and, because of the steep slope and unstable soil conditions, has never been developed. The western area of the hillside, on the south side of Hunters Point Hill, includes a former residential area that was demolished in the 1960s. Roads and housing unit foundations are still present in this area. At the northern entrance to HPS is the site of a former trailer park (U.S. Navy, 1994c). There are no public access routes or recreational amenities in these areas.

Public/Recreation

Building 120, a recreational facility leased by the San Francisco Police Athletic Club, is the only building available for recreational uses at HPS and is used for physical fitness training by police officers (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1994). Public/recreation land use occupies about 0.25 acres (0.1 ha) (Figure 3.4-2).

Navy/Administration

The Navy uses the sentry house, pass office, and caretakers office (Buildings 158, 322, and 383), office and warehouse space (Buildings 270 and 271), and the firehouse in Building 215. Navy maintains the electrical substation in Building 229 and sewage pump station in Building 819 (U.S. Navy, 1998e). This land use occupies about 7.75 acres (3 ha) (Figure 3.4-2).

Commercial/Other

Dago Mary's, a restaurant, leases Building 916 near the main entrance. SFPD special operations uses Building 606 for special operations and the adjacent lot for a helicopter landing pad. SFPD also uses 60 (24 ha) acres in Parcel A for training. A San Francisco Redevelopment Agency site office is located in Building 915. The San Francisco Redevelopment Agency subleases five acres (2 ha) in Parcel B to an educational job training center. The Commercial/Other land use occupies about 2 acres (0.8 ha) (Figure 3.4-2).

3.4.2 Surrounding Land Uses

The area surrounding HPS is identified as the South Bayshore planning area in the City's General Plan (see Figure 3.4-1). Land uses in this area include light/heavy industrial, residential, parks and open space, public, and commercial.

Light/Heavy Industrial

A graded undeveloped area zoned for industrial use is north of HPS between Innes Avenue and India Basin. A small boat repair yard and marina lie just northeast of the undeveloped area, and there is a short commercial strip along the south side of Innes Avenue. Beyond India Basin, the northern industrial area includes the Port of San Francisco's South Container Terminal (Piers 92-94), the Port's Intermodal Container Transfer Facility (ICTF), India Basin Industrial Park, and a PG&E electrical generating plant. Most of the area south of HPS near South Basin is zoned industrial and contains a mix of small manufacturing, distribution, and warehouse uses and a University of California at San Francisco (UCSF) animal care facility.

Residential

Low-density, predominantly single-family residential neighborhoods are next to the western edge of HPS. Higher density housing is immediately northwest of the main entrance area (Figure 3.4-1). North of Bayview Hill and Candlestick Point State Recreation Area are other low-density residential areas. In Executive Park at Candlestick Point, 600 residential units are planned and are under construction (as of October 1998).

Parks and Open Space

There are several public parks and open spaces in the South Bayshore planning area, as shown on Figure 3.4-1. Candlestick Point State Recreation Area, southwest of HPS, consists of undeveloped open space and a developed park. There are approximately 13 neighborhood parks and playgrounds within the South Bayshore planning area, primarily east of Third Street.

The Bay Trail is proposed to run south along Third Street and then continue east to Yosemite, Carroll, and Gilman Avenues before connecting with an established section of the Bay Trail in the Candlestick Point State Recreation Area. Additional sections of the Bay Tail are proposed toward the north side of HPS in the vicinity of India Basin. These proposed sections would extend an existing portion of the trail that ends at Innes Avenue and Hunters Point Boulevard southeast along Innes Avenue to Earl Street and would provide access to India Basin at the northeast terminus of Earl Street (ABAG, 1998b).

At Pier 98, on the north side of India Basin, the Port of San Francisco is undertaking a wetland restoration project. The completed project will include up to 5 acres (2 ha) of new wetlands and improved public access to the 25-acre (10-ha) site for fishing, hiking, and wildlife viewing (City and County of San Francisco, Planning Department, 1997b).

Commercial

Neighborhood-commercial establishments are concentrated along a central stretch of Third Street (Figure 3.4-1). Other commercial areas include the Bayshore Boulevard retail area north of Industrial Way, the Jerrold Avenue produce market, and the office park south of Bayview Hill at Executive Park. Intensification of this commercial area at Executive Park is planned, along with commercial development in the Candlestick Point special use district enacted by San Francisco voters in June 1997.

3.4.3 Plans and Policies

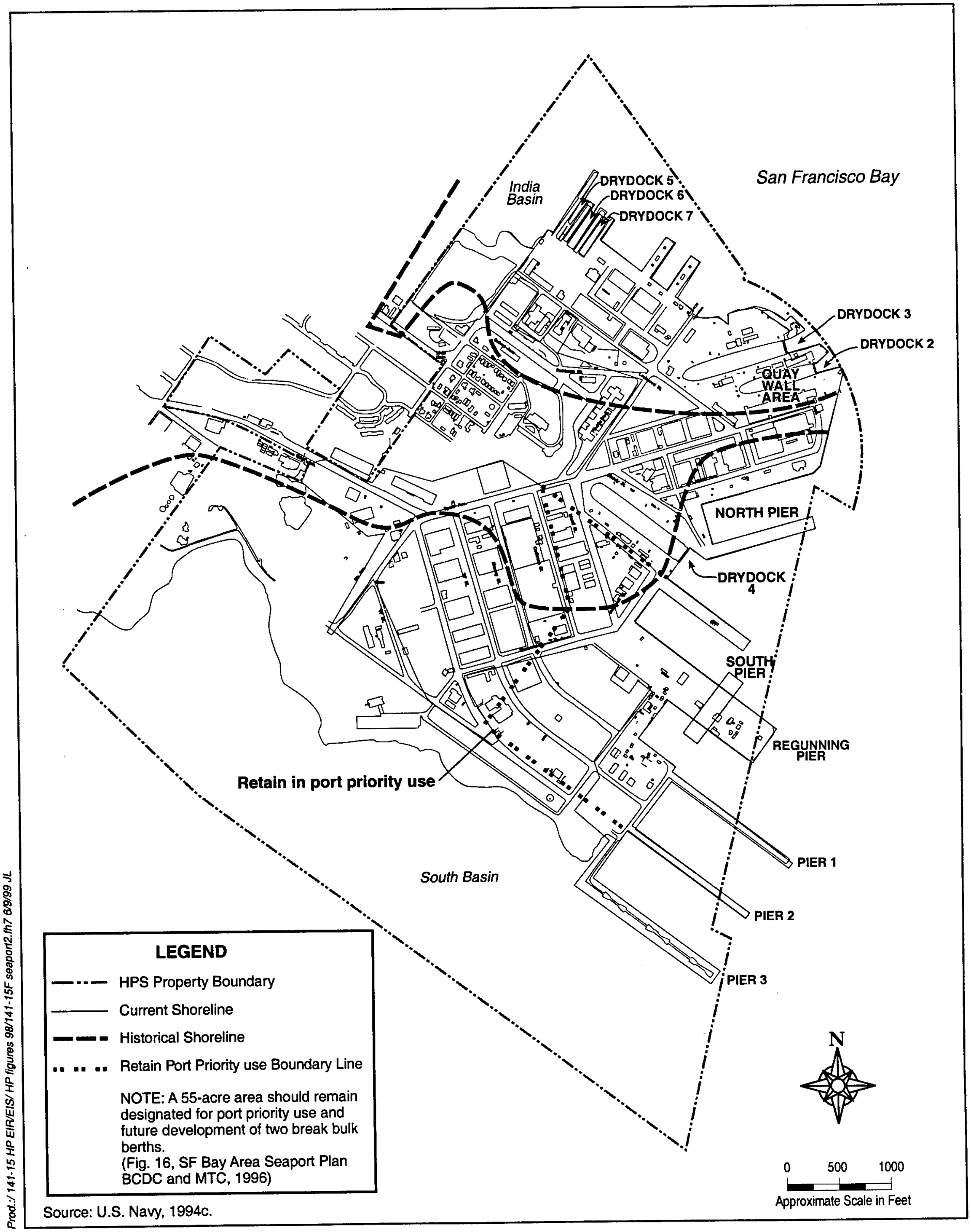
Coastal Zone Management

The authority to evaluate projects conducted, funded, or permitted by the Federal government is granted to coastal states through the Federal Coastal Zone Management Act (CZMA) of 1972, 16 U.S.C.A. §§ 1451-1465 (West, 1985 and Supp. 1998), as amended. Under the CZMA, any Federal projects or activities must be consistent to the maximum extent practicable with the provisions of Federally approved state coastal plans, 16 United States Code (U.S.C.) 1456, CZMA § 307 (c)(1). The coastal management plan for the east side of the City consists of the McAteer-Petris Act, California Government Code §§ 66600-66682 (West, 1997 and Supp. 1999), the Bay Plan (Bay Conservation and Development Commission [BCDC], 1969, revised 1997), the Seaport Plan (BCDC and MTC, 1996), and local management programs. Under the approved coastal management program, 55 acres (22 ha) in the southeast portion of HPS are designated as a port priority use area. Figure 3.4-4 shows the Seaport Plan designation for HPS.

A portion of dry land (approximately 198 acres [80 ha]) is subject to the Public Trust, which applies to land that was formerly tideland or under navigable waters at the time California became a state. Figure 3.4-4 shows the historical shoreline of HPS. Generally, the California State Lands Commission (SLC) has jurisdiction over ungranted tidelands and submerged lands owned by the state and the beds of navigable rivers, streams, bays, estuaries, and inlets within its boundaries (California Public Resources [Cal. Pub. Res.] Code § 6301). These lands are held in trust by the state for the benefit of the public and must be used for purposes consistent with the Public Trust, such as maritime commerce, navigation, fishing, or environmental and recreational purposes.

Bay Conservation and Development Commission

The Bay Conservation and Development Commission (BCDC) was created in 1965 under the McAteer-Petris Act as a permanent San Francisco Bay management and regulatory agency. BCDC functions as the state coastal management agency for San Francisco Bay, having jurisdiction over all areas subject to tidal action up to the mean high tide line and including all sloughs, marshlands lying between the mean high tide and 5 feet (1.5 m) above mean sea level, tidelands, and submerged lands. Its shoreline band jurisdiction includes all areas 100 feet (30 m) inland and parallel to the mean high tide line. BCDC uses the San Francisco Bay Plan and the San Francisco Bay Area Seaport Plan as the long-range planning and implementation documents for the coastal zone management program.



Source: U.S. Navy, 1994c.

Prod.:/ 141-15 HP EIR/EIS/ HP figures 98/141-15F seaport2.fh7 6/9/99 JL

Figure 3.4-4: San Francisco Bay Area Seaport Plan Designation for HPS

San Francisco Bay Plan

The San Francisco Bay Plan, developed by BCDC in 1969 and revised in 1997, contains policies protecting the Bay's economic and natural resources and designates shoreline regional priority use areas. These policies guide permit decisions by BCDC.

San Francisco Bay Area Seaport Plan

The San Francisco Bay Area Seaport Plan was developed jointly by BCDC and MTC in response to state law requiring a maritime element of MTC's Regional Transportation Plan and BCDC's Bay Plan. The Seaport Plan designates sites for port priority uses, such as marine terminals and water-related industry uses. The port priority use designation is intended to reserve adequate waterfront areas for future port and water-related development and to prevent unnecessary Bay filling when such uses expand. Port priority uses include marine terminals and directly related ancillary activities, such as container freight stations, transit sheds and other temporary storage, ship repairing, and support transportation uses, including trucking and port activity, chandlers, and marine services. Other uses, such as public access and public and commercial recreational development, also are permitted as long as they do not significantly impair the efficient use of the port areas.

BCDC revised and adopted the Seaport Plan in April 1996 and formally incorporated it into the Federally approved coastal management program for San Francisco Bay in August 1996. The Seaport Plan designates 55 acres (22 ha) on the southeast portion of HPS as port priority use (BCDC, 1998). This designation is part of a carefully balanced, long-term plan for port growth in the San Francisco Bay region, and, pending final agreements between the SLC and the San Francisco Redevelopment Agency, it is possible that a portion, if not all, of this area would be subject to the Public Trust.

After property disposal, BCDC jurisdiction at HPS would include all areas within 100 feet (30 m) inland of mean high tide, which is 3.34 feet (1.0 m) National Geodetic Vertical Datum (NGVD), as well as all tidal marsh areas up to an elevation of 5 feet (1.5 m) above mean sea level. BCDC's state jurisdiction requires permits for any fill, extraction of materials, or substantial changes in use of any water, land, or structure in the Bay. Permits for priority use areas and areas within the 100-foot (30-m) shoreline band will be granted or denied based on the appropriate Bay Plan policies for ports, water-related industry, water-oriented recreation, airports, and wildlife areas.

City and County of San Francisco General Plan

The City's General Plan establishes several policies relevant to existing and proposed land uses at HPS. General Plan policies are listed as "elements." The major elements relevant to land use are Community Facilities, Residence, Commerce and Industry, Recreation and Open Space, Urban Design, and Arts. In addition, the South Bayshore Area Plan contains several policies relevant to the future development of HPS and surrounding lands.

The following Community Facilities objectives are applicable to HPS under the City General Plan:

- Distribute, locate, and design police facilities in a manner that will enhance the effective, efficient, and responsive performance of police functions (Objective 1).
- Assure that neighborhood residents have access to needed services and a focus for neighborhood activities (Objective 3).
- Provide neighborhood centers that are responsive to the community served (Objective 4).
- Develop a system of firehouses that will meet the operating requirements of the fire department in providing fire protection services and that will be in harmony with related public service facilities and with all other features and facilities of land development and transportation provided in other sections of the General Plan (Objective 5).
- Assure that institutional uses are located in a manner that will enhance their efficient and effective use (Objective 9).

The following policies are applicable to HPS under the City General Plan's Residence Element:

- Encourage development of housing on surplus, underused, and vacant public lands (Supply of New Housing Policy 1).
- Use the City's financial powers and resources to reduce the cost and increase the supply of low and moderate income housing (Affordability of Housing Policy 1).
- Seek inclusion of low and moderate income units in new housing development (Affordability of Housing Policy 3).
- Assure housing is provided with adequate public improvements, services, and amenities (Neighborhood Environment Policy 1).
- Prevent housing discrimination based on age, race, religion, sex, sexual preference, marital status, ancestry, national origin, color, or disability (Accessibility Policy 1).
- Expand opportunities for home ownership (Accessibility Policy 7).
- Encourage the balancing of regional employment growth with the development and growth of housing in the region (Regional Coordination Policy 1).

The following policies are applicable to HPS under the City General Plan's Commerce and Industry Element:

- Promote the attraction, retention and expansion of commercial and industrial firms that provide employment improvement opportunities for unskilled and semi-skilled workers (General Citywide Policy 1).
- Emphasize job training and retraining programs that will impart skills necessary for participation in the San Francisco labor market (General Citywide Policy 3).
- Avoid public actions that displace existing viable industrial firms (Industry Policy 3).
- Avoid encroachment of incompatible land uses on viable industrial activity (Industry Policy 5).
- Reestablish HPS as a major source of maritime employment and activity (Maritime Policy 9).

The following policies are applicable at HPS under the City General Plan's Recreation and Open Space Element:

- Seek ways to increase public access to HPS without interfering with maritime use. Encourage construction of new housing near the north gate entrance. Shoreline access could be provided along South Basin extending east from Candlestick Point State Recreation Area. A trail connecting India Basin and Candlestick Point could be provided along Earl Street through the HPS site and link up to the City shoreline trail (Shoreline Policy 5, Eastern Shoreline).
- Develop a City-wide urban trails system that links City parks and public open space, hilltops, the waterfront, and neighborhoods and ties into the regional hiking trail system (Citywide System Policy 8).
- Require private usable outdoor open space in new residential development (Neighborhoods Policy 5).
- Assure adequate public open space to serve new residential development (Neighborhoods Policy 6).

The following policies are applicable to HPS under the City General Plan's Urban Design Element:

- Avoid encroachments on San Francisco Bay that would be inconsistent with the San Francisco Bay Plan (prepared by BCDC) or the needs of the City's residents (Objective 2, Policy 3).

- Preserve notable landmarks and areas of historic, architectural, or aesthetic value and promote the preservation of other buildings and features that provide continuity with past development (Objective 2, Policy 4).
- Relate the height of buildings to important attributes of the City pattern and to the height and character of existing development (Objective 3, Policy 5).

The following policies are applicable to HPS under the City General Plan's Arts Element:

- Ensure the active participation of artists and arts organizations in the planning and use of decommissioned military facilities in San Francisco (Goal VI, Policy 6).
- Encourage the use of available and existing facilities under local government jurisdiction by artists and arts organizations (Goal VI, Policy 7).
- Identify, recognize, and support existing arts clusters and, wherever possible, encourage the development of clusters of arts facilities and arts-related businesses throughout the City (Goal VI, Policy 11).

Zoning

The South Bayshore planning area contains zoning for residential, commercial, industrial, and public uses (Figure 3.4-5). HPS is currently zoned for public (P) and industrial (M-1 and M-2) uses. Table 3.4-1 summarizes general characteristics of the existing zoning districts illustrated on Figure 3.4-5.

The Bayview-Hunters Point Project Area Committee (PAC) and the San Francisco Redevelopment Agency are working together to develop a Revitalization Concept Plan for Bayview-Hunters Point. The plan will provide a vision for the area's future and will serve as the basis for creating a redevelopment plan. After the Concept Plan is completed, a redevelopment plan and General Plan Amendments, which could include zoning, map, and text changes, will be adopted. The PAC, the San Francisco Redevelopment Agency, and City Planning Department would work collaboratively on these planning documents.

City of San Francisco Sustainability Plan

The San Francisco Board of Supervisors endorsed the City's *Sustainability Plan* (City and County of San Francisco, 1997b) on July 21, 1997 (Resolution No. 692-97) as a nonbinding guideline for policy and practice in the City. The basic goal of the plan is to enable the City and its people to meet present needs without sacrificing the ability of future generations to meet their needs. The plan contains short-term (five-year) and long-term objectives and specific actions related to various topics, such as air quality,

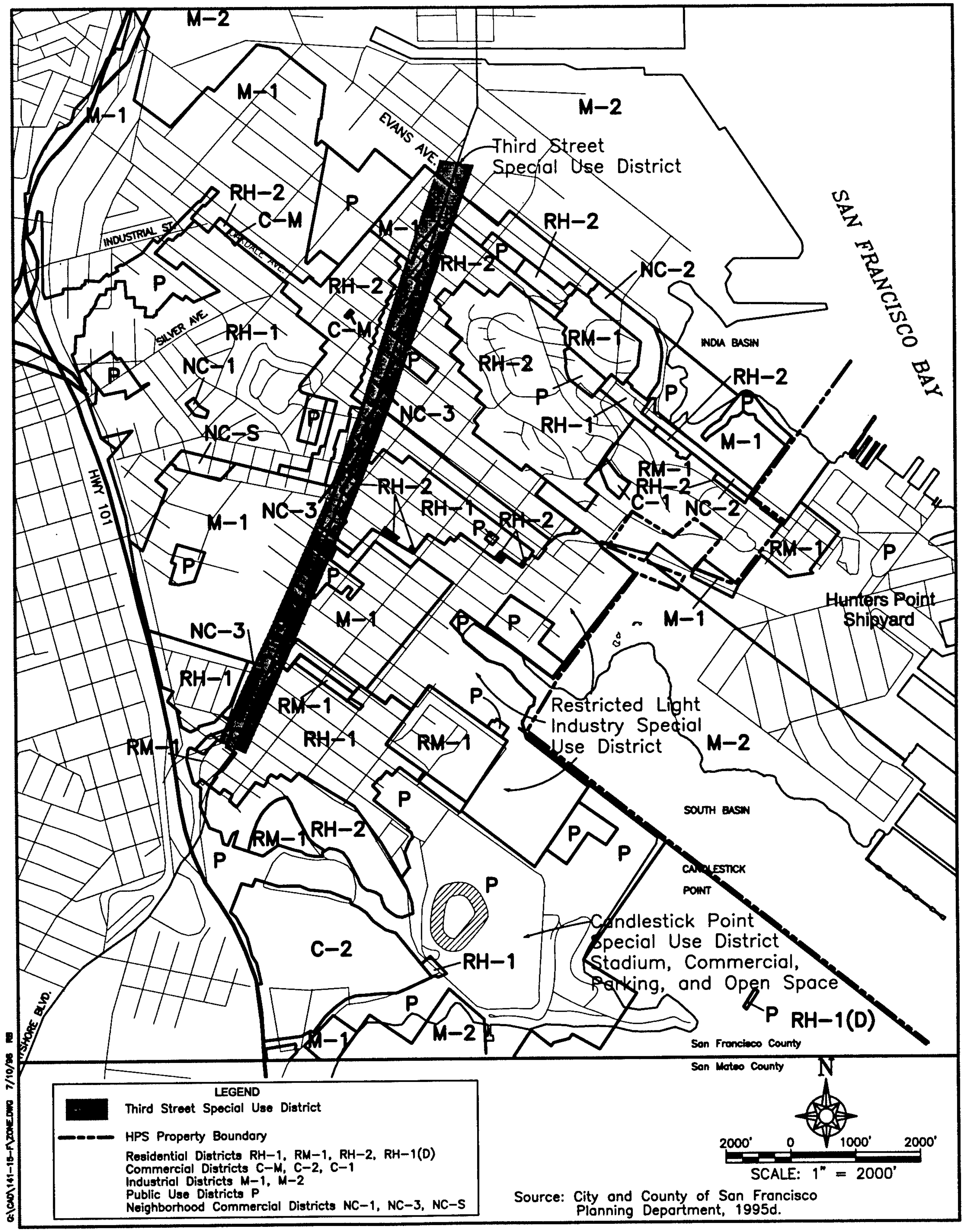


Figure 3.4-5: Zoning for South Bayshore Planning Area

TABLE 3.4-1: ZONING DISTRICTS IN THE SOUTH BAYSHORE PLANNING AREA

ZONING DISTRICT	PERMITTED USES
RESIDENTIAL DISTRICTS	
RH-1, RH-1(S), RH-1(D), RH-2	RH-1(D): One dwelling unit per lot. RH-1: One dwelling unit per 3,000 square feet (279 square m) of lot area, maximum of 3 units. RH-1(S): Same as RH-1, or, 2 units per lot with second unit maximum of 600 square feet (56 square m). RH-2: Two residential units per lot. Other permitted uses: residential care facility for six or fewer; open space for horticulture or passive recreation; public structure or use of a nonindustrial character. Additional residential units based on lot size are available with a conditional use permit authorized by the Planning Commission.
RM-1	One dwelling unit per 800 square feet (74 square m) of lot area. Other permitted uses: same as RH districts, plus group housing, boarding, religious orders. Additional residential units based on lot size are available with a conditional use permit authorized by the Planning Commission.
COMMERCIAL DISTRICTS	
C-1 Neighborhood Shopping	Retail goods and personal services at convenient locations to meet the needs of nearby residents, usually surrounded by residential areas of relatively low density.
C-2 Community Business	Larger scale than C-1 districts, provides convenience goods and services to more densely built residential areas of the City, with city-wide or regional market including wider variety of goods and services.
C-M Heavy Commercial	Heavy commercial uses not permitted in other commercial districts, including wholesaling and business services, some light manufacturing and processing also permitted along with retail, office, and service uses.
INDUSTRIAL DISTRICTS	
M-1 Light Industrial	Smaller industries dependent on truck transportation.
M-2 Heavy Industrial	Larger industries served by rail and water transportation and by large utility lines.
PUBLIC USE DISTRICT	
P	Land owned by a government agency in some form of public use, including open space; public structures and use of government agencies, including accessory nonpublic uses in conformity with the General Plan and other applicable codes. Accessory nonpublic use within 1/4 mile (396 m) of NC-1 or Restricted Use Subdistrict requires conditional use permit.
NEIGHBORHOOD COMMERCIAL DISTRICTS	
NC-1	Local neighborhood shopping (corner stores), retail sales and services (ground floor only), residential with 1 unit per 800 square feet (74 square m) of lot area.
NC-2	Small-scale shopping at street level but with increased building size and some retail allowed on second floor
NC-3	Moderate-scale linear shopping but with increased building size and most retail allowed on second floor.
NC-S	Small shopping centers with low-scale buildings and parking lots; residential with up to 1 unit per 800 square feet (74 square m) of lot area.

Source: City and County of San Francisco, Planning Department, 1995d.

energy, hazardous materials, parks, solid waste, transportation, water and wastewater, economic development, environmental justice, and risk management.

Many of the *Sustainability Plan* objectives do not directly relate to reuse of HPS. Applicable objectives are listed below.

- Reduce vehicle miles and facilitate use of transit, bicycles, and walking.
- Expand green space and provide recreational facilities.
- Maximize wastewater reclamation and reuse.
- Conserve potable water.
- Minimize storm water flows in the City's combined sewer system.
- Reduce system discharges to the Bay.
- Ensure that discharges do not impair receiving waters.
- Minimize hazardous materials use and generation and focus remediation efforts on those issues with the highest risk of danger to human and environmental health.
- Clean up and reuse contaminated sites to enable new economic development at the same time that exposure to hazardous materials from these sites is eliminated.

3.5 VISUAL RESOURCES AND AESTHETICS

This section describes the features that make up the visual environment at HPS. The ROI for visual resources and aesthetics is HPS, surrounding residential and industrial areas, and San Francisco Bay, as well as more distant hillsides, waterfront areas, and areas with prominent views of the site.

3.5.1 Visual Features at HPS

Prominent visual features, sensitive viewpoints, and views from HPS and of HPS are described below. Figure 3.5-1 identifies prominent visual features and views on HPS. Figure 3.5-2 defines distinct visual areas at HPS, where photographs illustrating prominent visual features for each area were taken. Figure 3.5-3 provides the reference locations of the photographs.

The overall character of HPS is defined by industrial structures, paved areas, open spaces, and residential areas with landscaped vegetation and by the proximity of portions of the site to San Francisco Bay. Most of the site is flat. A ridge (Hunters Point Hill) extends onto the site from the northwest and forms a sharp visual contrast to the flat portion of HPS to the east. The ridge divides the site, creating visually isolated parcels to the north and south. The ridge is visible from more distant locations on San Francisco Bay, Candlestick Point, and Bayview Hill. The eastern portion of HPS overlooks San Francisco Bay and associated maritime activity. The entire site is not visible from any one ground-level location.

HPS contains a number of visual focal points: the large crane structure on the waterfront, the 6-story green glass Building 253, Building 815 (the UCSF animal care facility) at the southern base of the ridge adjacent to the site, the 10-story Building 600 on the southern shoreline, and the 5-story Building 921 (former bachelor officer's quarters) on Hunters Point Hill. In addition to these individual focal points, the central portion of HPS is an industrial facility characterized by large buildings and parking/storage yards, with increased open space and decreased development intensity to both the north and south.

Large areas in the northern and southern parts of HPS are characterized by undeveloped open fields and shorelines that are visually similar to off-site open space and shoreline areas. To the east, HPS is characterized by maritime development dominated by piers, ships, cranes, and drydocks. Hunters Point Hill and associated residential development characterize the western edge of HPS.

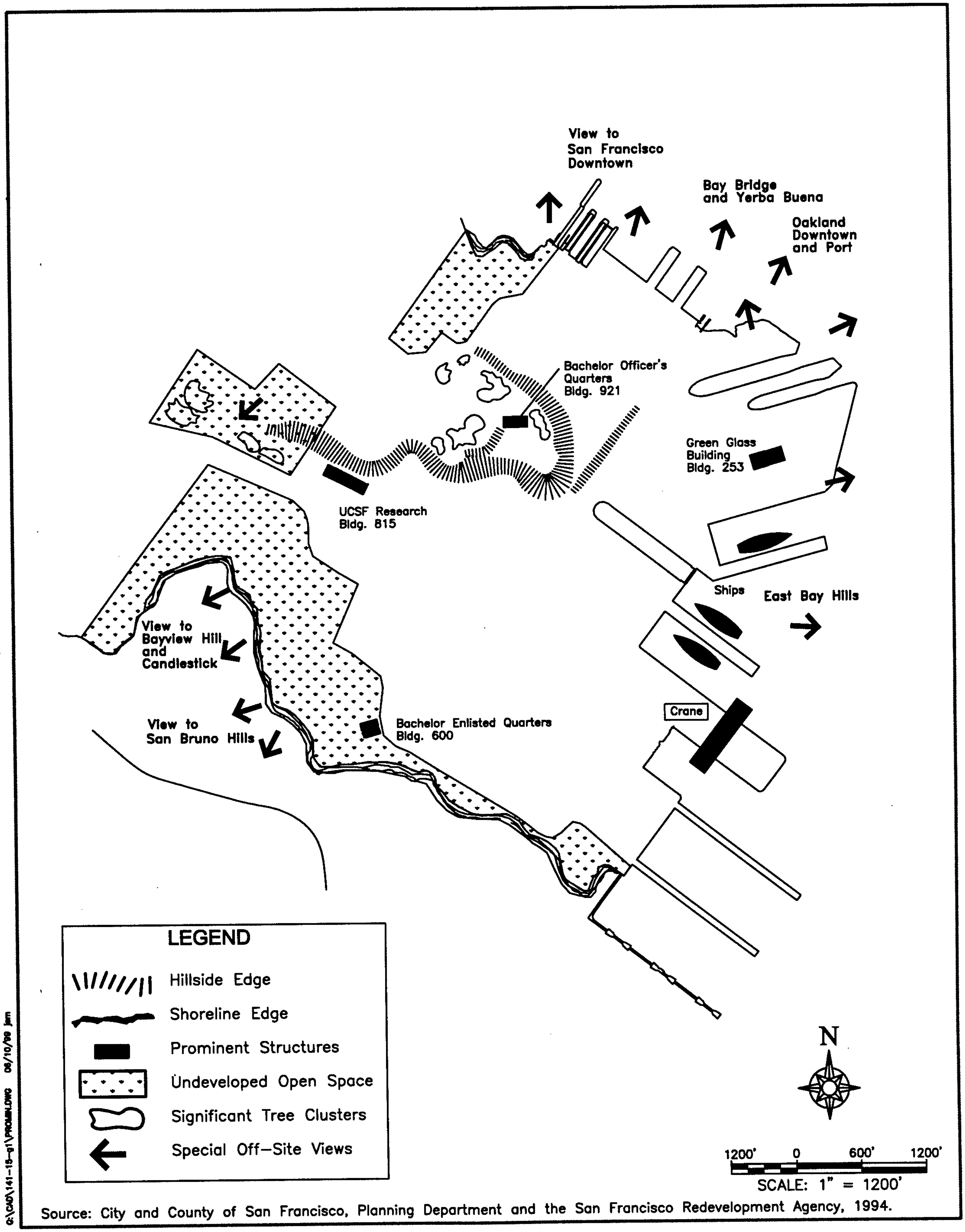


Figure 3.5-1: Prominent Visual Features and Views, Hunters Point Shipyard

3.5 VISUAL RESOURCES AND AESTHETICS

This section describes the features that make up the visual environment at HPS. The ROI for visual resources and aesthetics is HPS, surrounding residential and industrial areas, and San Francisco Bay, as well as more distant hillsides, waterfront areas, and areas with prominent views of the site.

3.5.1 Visual Features at HPS

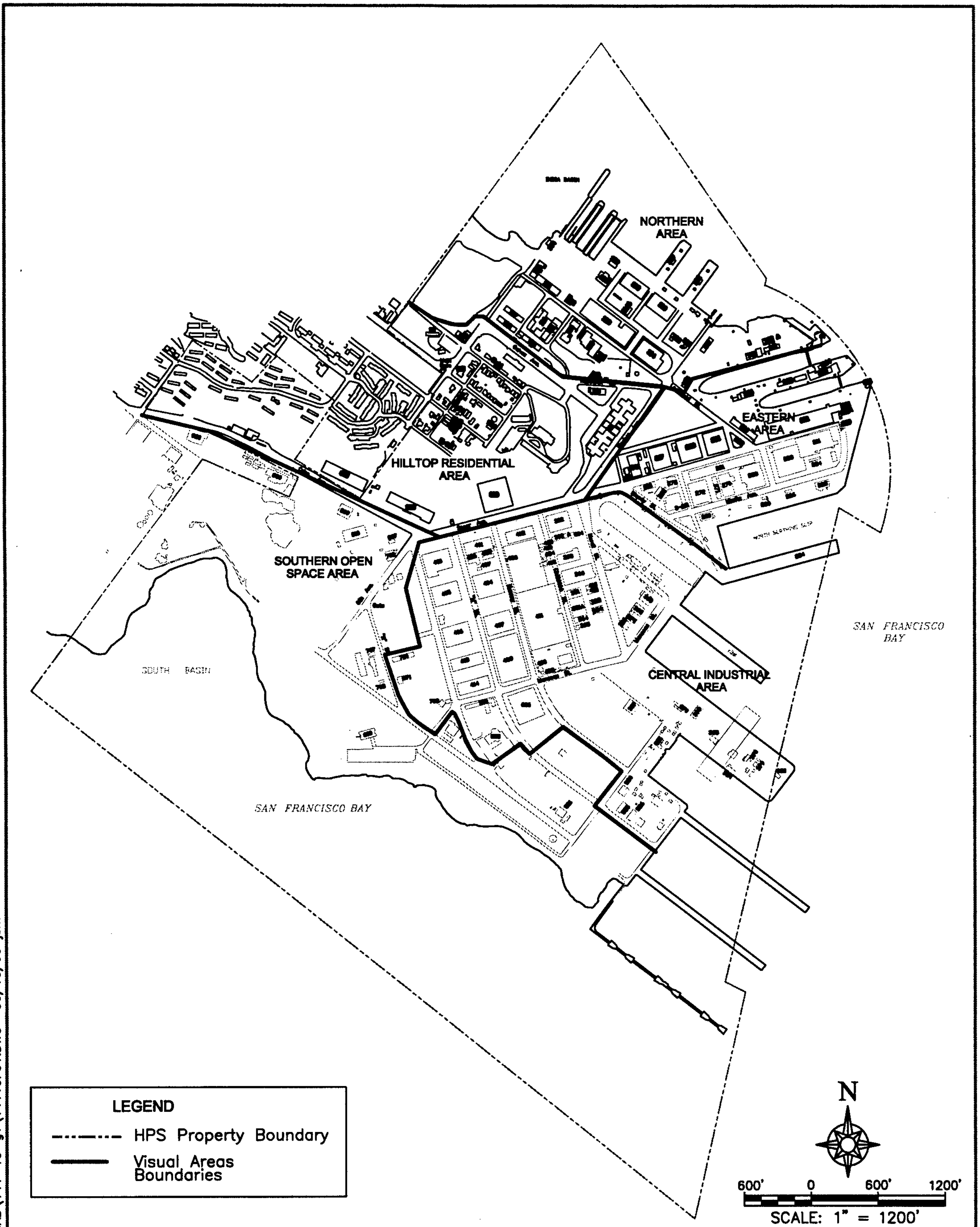
Prominent visual features, sensitive viewpoints, and views from HPS and of HPS are described below. Figure 3.5-1 identifies prominent visual features and views on HPS. Figure 3.5-2 defines distinct visual areas at HPS, where photographs illustrating prominent visual features for each area were taken. Figure 3.5-3 provides the reference locations of the photographs.

The overall character of HPS is defined by industrial structures, paved areas, open spaces, and residential areas with landscaped vegetation and by the proximity of portions of the site to San Francisco Bay. Most of the site is flat. A ridge (Hunters Point Hill) extends onto the site from the northwest and forms a sharp visual contrast to the flat portion of HPS to the east. The ridge divides the site, creating visually isolated parcels to the north and south. The ridge is visible from more distant locations on San Francisco Bay, Candlestick Point, and Bayview Hill. The eastern portion of HPS overlooks San Francisco Bay and associated maritime activity. The entire site is not visible from any one ground-level location.

HPS contains a number of visual focal points: the large crane structure on the waterfront, the 6-story green glass Building 253, Building 815 (the UCSF animal care facility) at the southern base of the ridge adjacent to the site, the 10-story Building 600 on the southern shoreline, and the 5-story Building 921 (former bachelor officer's quarters) on Hunters Point Hill. In addition to these individual focal points, the central portion of HPS is an industrial facility characterized by large buildings and parking/storage yards, with increased open space and decreased development intensity to both the north and south.

Large areas in the northern and southern parts of HPS are characterized by undeveloped open fields and shorelines that are visually similar to off-site open space and shoreline areas. To the east, HPS is characterized by maritime development dominated by piers, ships, cranes, and drydocks. Hunters Point Hill and associated residential development characterize the western edge of HPS.

G:\CAD\141-15-g1\14115F01.DWG 06/10/99 jsm



Source: City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1994.

Figure 3.5-2: Visual Areas, Hunters Point Shipyard

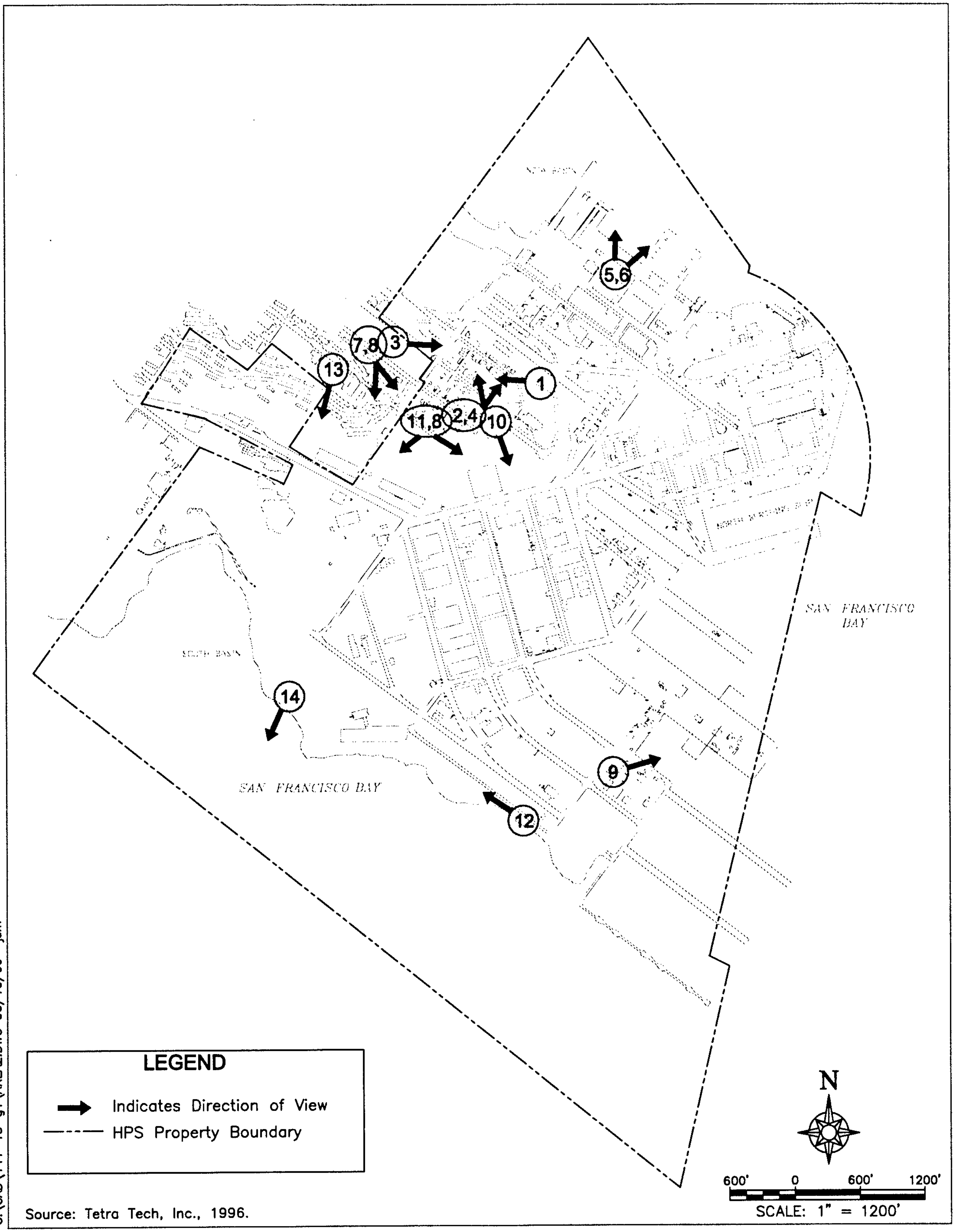


Figure 3.5-3: Photograph Locations, Hunters Point Shipyard

Hilltop Former Residential Area

The former residential area is located on the crest of Hunters Point Hill, a prominent ridge in the western part of HPS. The residential units in this area are uninhabitable (Figure 3.5-4, Photograph 1). The ridge affords prominent views of HPS (Figure 3.5-4, Photograph 2). The south side of the ridge is adjacent to a residential area of the Bayview Hunters Point neighborhood. The industrial portion of HPS, including buildings in the central industrial area, as well as the large crane and ships berthed along the HPS waterfront, are visible from this location. However, publicly accessible views of the central and eastern areas of HPS from the ridge are limited by fencing around the former residential area.

Northern Area

This area is characterized by open space and industrial development (see Figure 3.5-5, Photographs 3 and 4). The western part of this area is an open field abutting an open area adjacent to HPS. The off-site open area extends east and south from India Basin. The eastern part of the Northern Area is characterized by large and small warehouses, other industrial structures, large parking areas, and open industrial/ maritime back-lot areas. This area also includes finger piers and larger docks extending into the Bay. Large ships docked at the piers are often visible.

The entrance to HPS and buildings and vegetation along Innes Avenue are visible from the west and north/northwest (Figure 3.5-5, Photograph 3). There are limited views of this area from the north-facing slope of Hunters Point Hill (Figure 3.5-5, Photograph 4). The eastern portions of this area also can be seen from San Francisco Bay. Visual features in this area include ships and the waterfront, as well as excellent, unobstructed medium- and long-range views of San Francisco Bay, the East Bay (Figure 3.5-6, Photograph 5), Yerba Buena Island, and downtown San Francisco (Figure 3.5-6, Photograph 6).

Eastern Area

This area provides views east of the eastern tip of the ridge that are characterized by large industrial and warehouse-type development. The visually prominent Building 253 can be seen in views from the northwest and from the Bay. Large ships, which occasionally berth at piers in this area, are also visible.

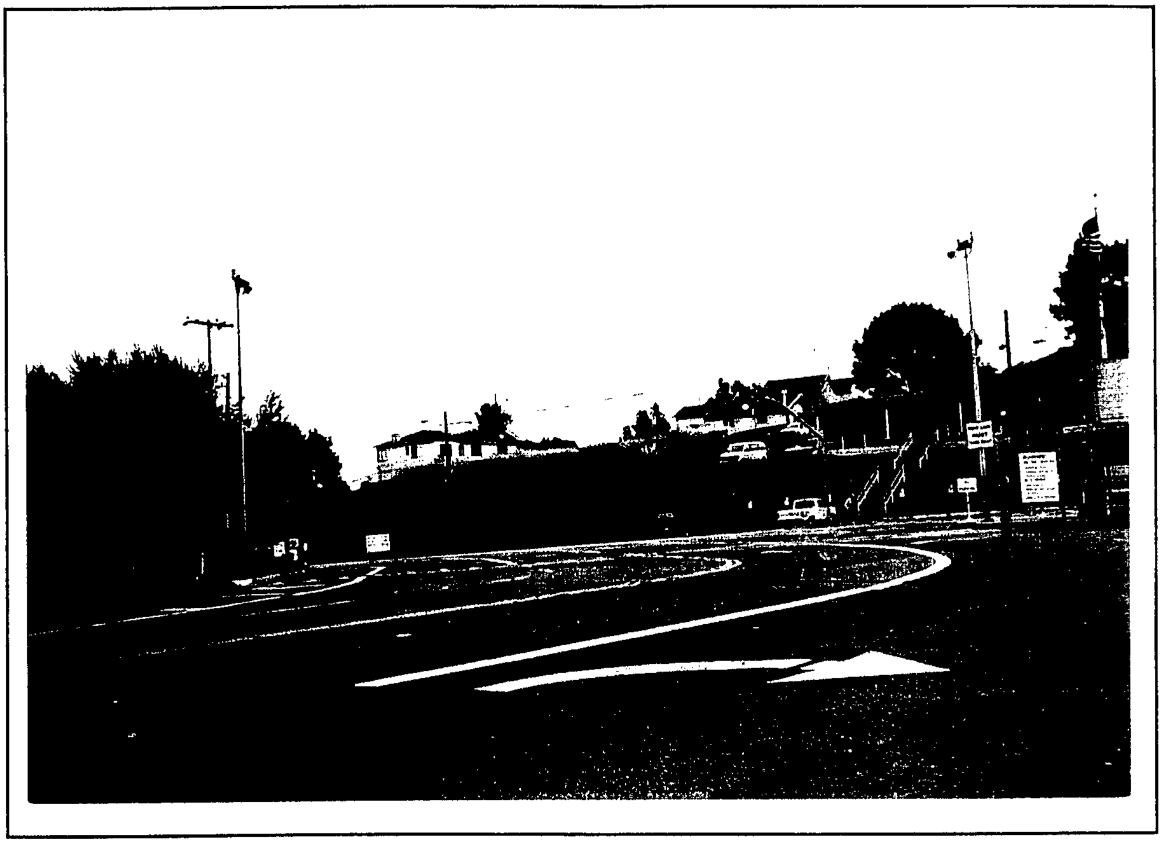
Similar to the Northern Area, the Eastern Area provides unobstructed distant views of the East Bay (see Figure 3.5-6, Photograph 5) and of downtown San Francisco (see Figure 3.5-6, Photograph 6). Views of this area from the ridge are blocked by fencing around the former residential area.

Photograph 1

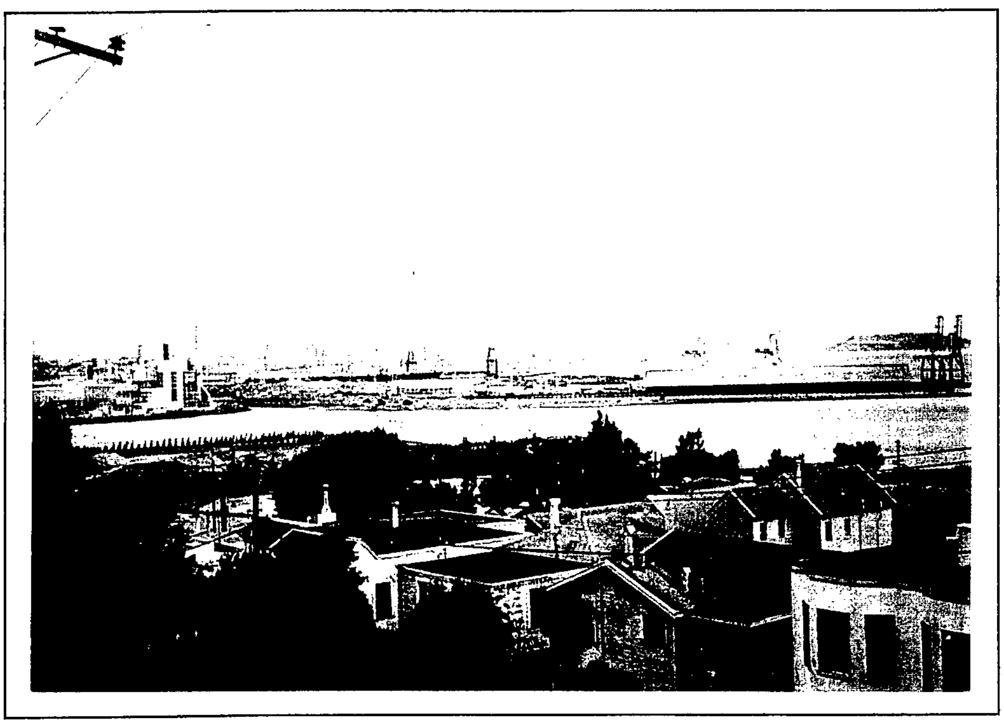
Photograph 2

G:\141-15 EIREIS\Figures 98\photo1-2.FH7 09/21/98 RB

Figure 3.5-4: Views of Hunters Point Hilltop Residential Area



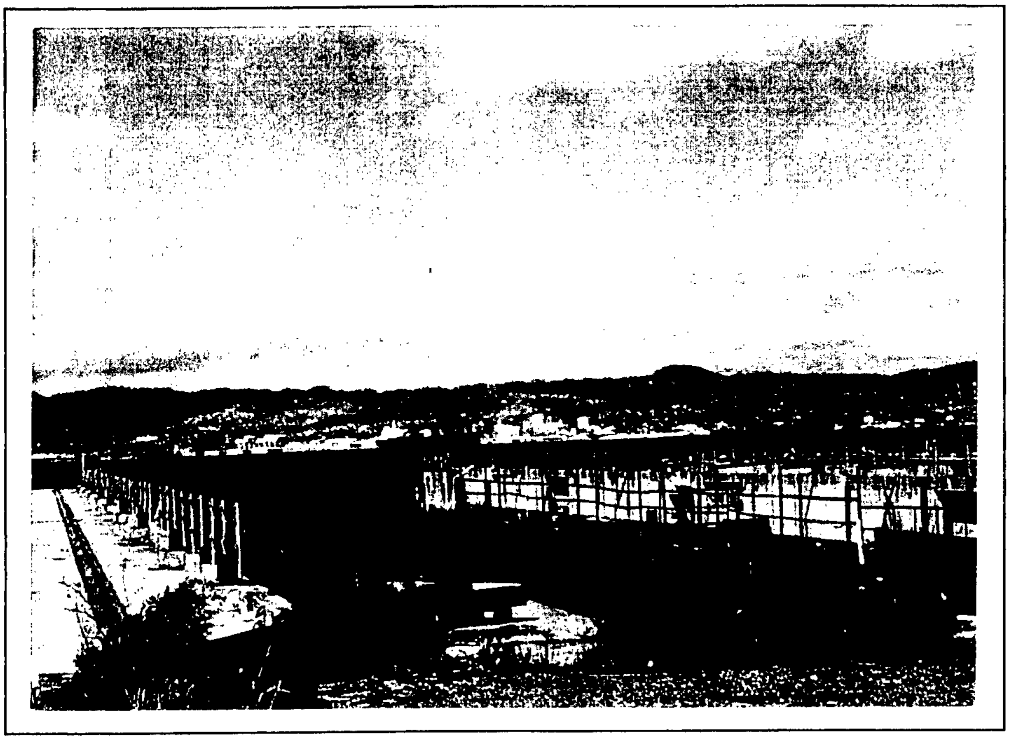
Photograph 3



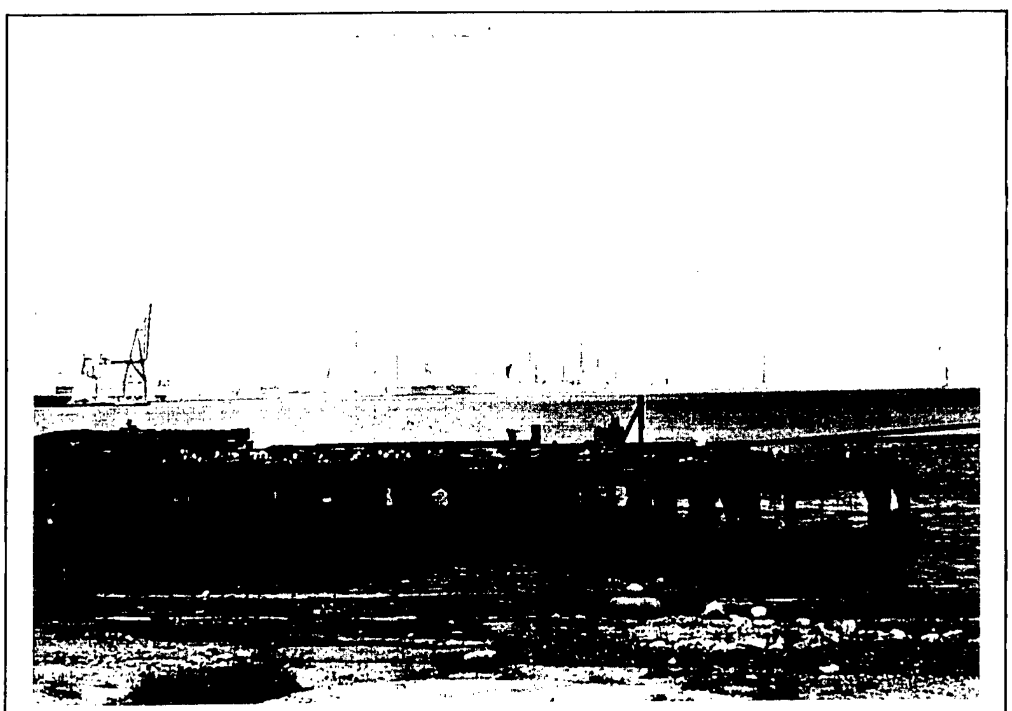
Photograph 4

G:\141-15 EIR\EIS\Figures 98\photo3-4.FH7 09/21/98 RB

Figure 3.5-5: View of Main Gate from the North and View of Northern Area from the South



Photograph 5



Photograph 6

G:\141-15 EIREIS\Figures 98\photo5-6.FH7 09/21/98 RB

Figure 3.5-6: Views of East Bay and San Francisco from Northern Area

Central Industrial Area

The Central Industrial Area is a level area characterized by large warehouse-type structures to the north and open space and maritime uses to the south and east (Figure 3.5-7, Photograph 7). In addition, several large industrial/warehouse-style buildings are prominent at the base of the ridge, providing a visual connection to the adjacent off-site industrial area to the south. The easternmost portion of this area contains docks and berthing ships (Figure 3.5-7, Photograph 8). The most prominent visual feature of HPS is the large waterfront crane structure, which is visible from all directions (Figure 3.5-8, Photographs 9 and 10).

Close-up views from this area include large structures and ships in the eastern half, the crane, and the ridge behind this area. Middle- and long-distance views include the East Bay, Candlestick Point, Bayview Hill, and San Bruno Mountain. Most of this area is visible from residential areas on the south-facing slope of the adjacent ridge, as well as from more distant viewpoints on Bayview Hill just west of Candlestick Park and from the shoreline park areas of Candlestick Point State Recreation Area.

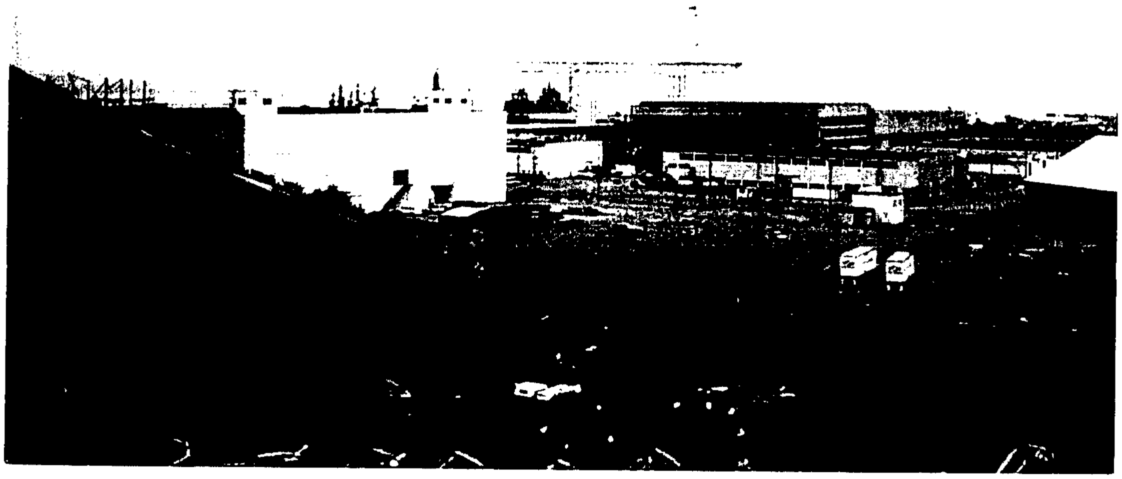
Southern Open Space Area

The Southern Open Space Area, located immediately west of the Central Industrial Area (Figure 3.5-2), is characterized by undeveloped, vegetated open space with a few small buildings and the visually prominent 10-story Building 600, the former bachelor enlisted quarters.

Viewed from the south, this area is low-lying and undeveloped, and its shoreline area appears as a natural extension of the undeveloped Candlestick Point State Recreation Area south of HPS. Building 600 is prominent in views from the Hilltop Residential Area, public viewpoints on the ridge, and from the Candlestick Point and Bayview Hills areas (Figure 3.5-9, Photographs 11 and 12). The Southern Open Space Area affords views to the south, including views of the South Basin, Candlestick Point, 3Com Park, Bayview Hill, and San Bruno Mountain (Figure 3.5-10, Photographs 13 and 14). The eastern tip of this area also has views across the Bay to the east.

3.5.2 Distant Views of HPS

Because of the generally flat topography and its location on a peninsula extending out into the Bay, HPS is visible from several distant off-site locations. The large crane, ridge, and berthed ships are visible from the Bay Bridge, downtown San Francisco high-rises, and East Bay vantage points. This site also can be seen from the Sierra Point area and as a backdrop to 3Com Park approaching the City from northbound U.S. 101. The large crane and Building 815 at the base of the hill, just off site, are clearly

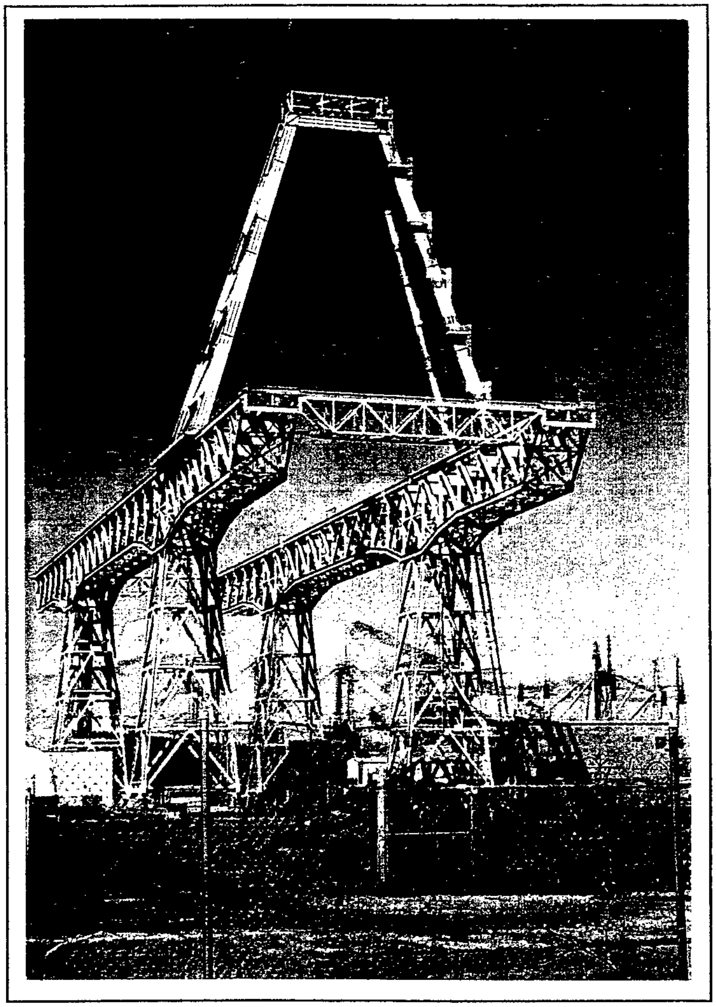


Photograph 7

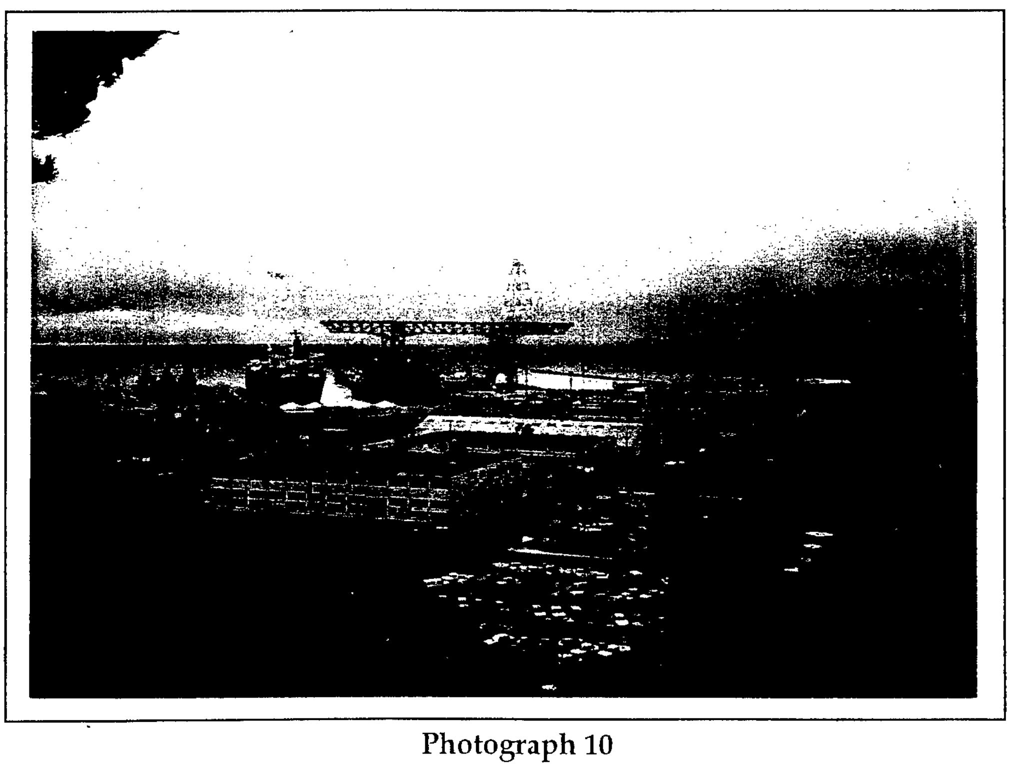
Photograph 8

G:\141-15 EIR/EIS\Figures 98\photo17-8.FH7 09/21/98 RB

Figure 3.5-7: Views of Central Area from Ridge



Photograph 9

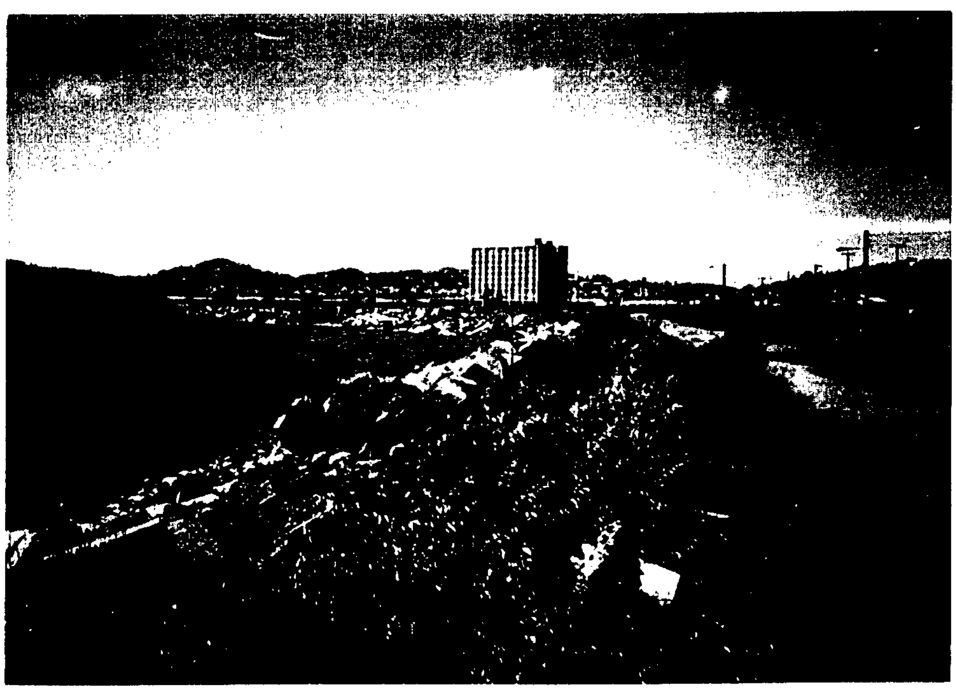


Photograph 10

G:\141-15 EIR/EIS\Figures 98\photo9-10.FH7 09/21/98 RB

Figure 3.5-8: Views of Central Area Including Large Crane Structure

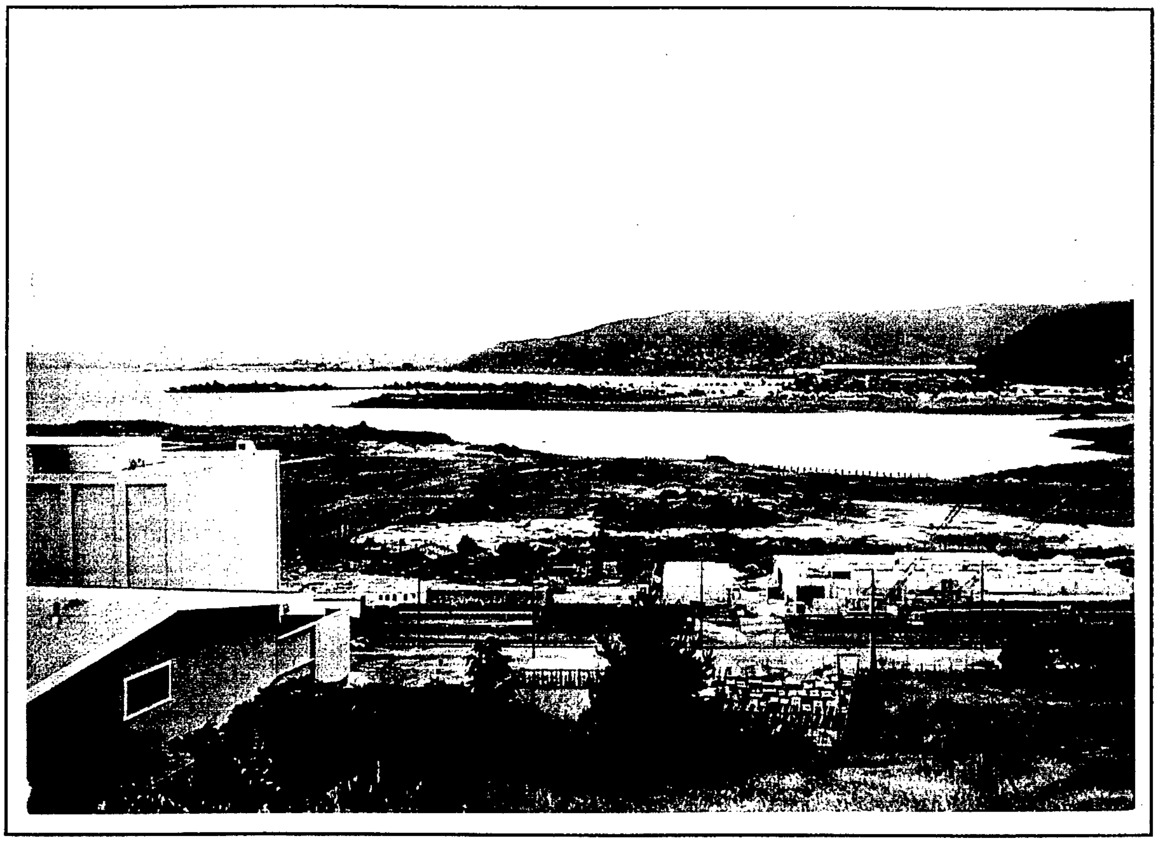
Photograph 11



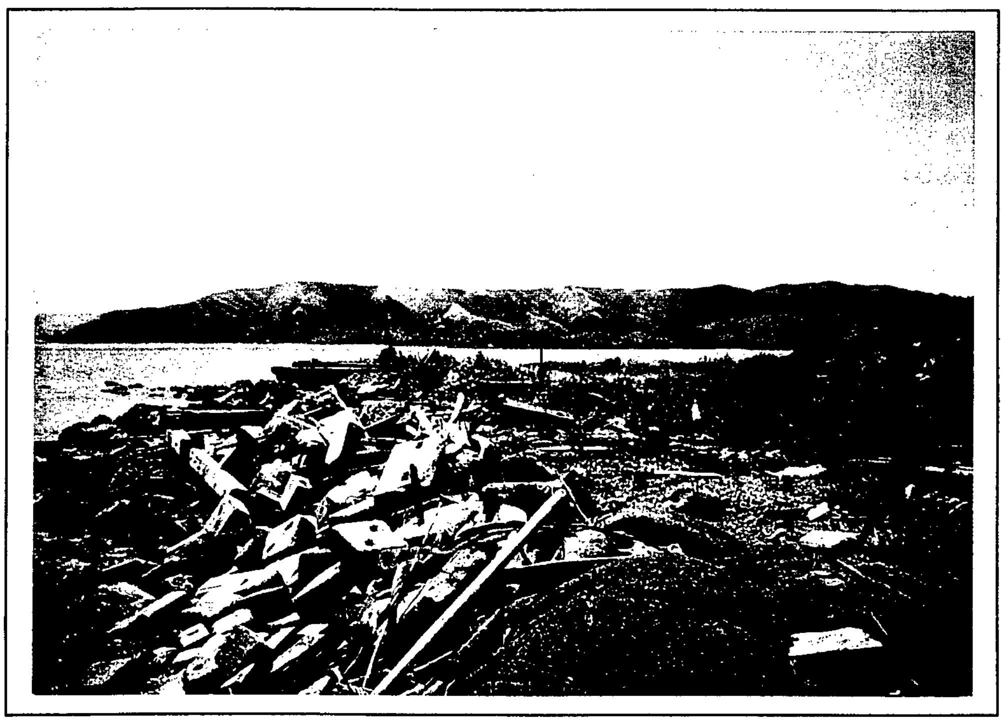
Photograph 12

G:\141-15 EIR\EIS\Figures 98\photo11-12.FH7 09/21/98 RB

Figure 3.5-9: View of Southern Open Space Area from On- and Off-Site



Photograph 13



Photograph 14

G:\141-15 EIR\EIS\Figures 98\photo13-14.FH7 09/21/98 RB

Figure 3.5-10: Views Looking South Across Southern Open Space Area distinguishable from this viewpoint. The only widely available mid-range view of the site is from Bayview Hill, south of HPS.

3.5.3 Plans and Policies

The following Urban Design Element policies are applicable to HPS under the City's General Plan (City and County of San Francisco, Planning Department, 1995a):

- Recognize and protect major views in the City, with particular attention to those of open space and water (City Pattern Policy 1).
- Recognize, protect, and reinforce the existing street pattern, especially as it is related to topography (City Pattern Policy 2).
- Protect and promote large-scale landscaping and open space that define districts and topography (City Pattern Policy 4).
- Recognize the natural boundaries of districts, and promote connections between districts (City Pattern Policy 7).
- Preserve in their natural state the few remaining areas that have not been developed by man (Conservation Policy 1).
- Limit improvements in other open spaces having an established sense of nature to those that are necessary and unlikely to detract from the primary values of the open space (Conservation Policy 2).
- Avoid encroachments on San Francisco Bay that would be inconsistent with the Bay Plan or the needs of the City's residents (Conservation Policy 3).
- Preserve notable landmarks and areas of historic, architectural, or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development (Conservation Policy 4).
- Avoid extreme contrasts in color, shape and other characteristics that would cause new buildings to stand out in excess of their public importance (Major New Development Policy 2).
- Recognize the special urban design problems posed by the development of large-scale properties (Major New Development Policy 7).

3.6 SOCIOECONOMICS

This section describes the South Bayshore area's socioeconomic setting and its contribution to the local economy. This description includes population, housing (including household characteristics), employment, and schools. Each of these elements is presented with information on the ROI and the City as a whole for comparison purposes. The ROI for socioeconomics is the South Bayshore planning area, also referred to as the Bayview-Hunters Point neighborhood of the City.

The description of socioeconomic conditions is based on a variety of sources, including the 1990 U.S. census (U.S. Department of Commerce, Bureau of the Census, 1993), *San Francisco Neighborhood Profiles 1997* (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1997d), population and employment projections prepared by ABAG (ABAG, 1995b and 1997), and the projections of City-wide cumulative growth recently prepared by the San Francisco Redevelopment Agency in cooperation with the Planning Department (San Francisco Redevelopment Agency, 1998c). Trends since 1990 and projections to 2020 are described below.

3.6.1 Background

The South Bayshore planning area is a predominantly industrial and residential district of the City. Historically, it was the location of much of the City's heavy industry and was an active center for World War II shipbuilding activity. After the war, much of the military housing on Hunters Point Hill was demolished and later replaced with subsidized housing complexes. Appendix D describes the area's community history.

The South Bayshore planning area is at a critical junction. Many major development projects are planned for the City in the next decade. Many of these planned projects—such as Mission Bay and the new UCSF campus, the Third Street LRT extension, and the Candlestick Point Retail/Entertainment Center—are located in the southeastern quadrant of the City and have the potential to stimulate needed economic development, population growth, and employment opportunities in the Bayview-Hunters Point neighborhood.

The San Francisco Redevelopment Agency is currently conducting studies on several segments of a proposed redevelopment plan area in the project vicinity. In addition to the HPS reuse planning process, the City is currently preparing a redevelopment plan for an area that encompasses almost the entire South Bayshore planning area except for three pre-existing redevelopment plan areas: HPS, the Bayview Industrial Triangle, and the India Basin Industrial Park. This area, known as the Bayview-Hunters Point survey area, extends from Cesar Chavez Street on the north to the City/County line on the south and from U.S. 101 on the west to the Bay on the east. The Bayview-Hunters Point Survey Area Concept Plan will focus primarily on revitalizing the Third Street Corridor, as well as the industrial areas to the north and south of Bayview-Hunters Point.

The San Francisco Redevelopment Agency recently completed an analysis of the cumulative growth implications of the major development and redevelopment projects currently in the planning stages the City (San Francisco Redevelopment Agency, 1997a). As a result of this study, ABAG's *Projections 96* (ABAG, 1995b) population and employment estimates for the City were adjusted upward to reflect the new planned growth. ABAG had projected virtually no population growth, but a 19 percent employment growth rate, for the City between 1995 and 2015. The revised estimates indicate an expected population growth rate of 8 percent and an employment growth rate of 24 percent in the City over this 20-year period. Similarly, ABAG's estimates of a 26 percent population growth rate and a 39 percent employment growth rate in Bayview-Hunters Point between 1995 and 2015 were revised upward to 34 percent and 54 percent, respectively.

Table 3.6-1 presents an overview of 1990 socioeconomic characteristics for the South Bayshore planning area and the City. This information is discussed where appropriate in the sections that follow. Figure 3.6-1 shows the location of the eight census tracts that comprise the South Bayshore planning area.

3.6.2 Population

Table 3.6-2 shows the projected population growth in the South Bayshore planning area from 1990 to 2020. About four percent of the City's population now lives in the Bayview-Hunters Point neighborhood. The Bayview-Hunters Point population is expected to increase steadily over this period, with the largest percentage increase (approximately 23 percent) to occur between 2000 and 2010. City-wide, the population is expected to increase through 2010, then to stabilize and even decrease slightly between 2010 and 2020.

As shown in Table 3.6-1, the ethnic composition of the Bayview-Hunters Point neighborhood is quite different from that of the City as a whole. In 1990, 47 percent of the City's population was White, compared with only nine percent of the Bayview-Hunters Point population. In addition, while African-Americans comprised 11 percent of the population City-wide, they represented a majority (61 percent) of the Bayview-Hunters Point population. The percentages of Asian-Americans and Hispanic-Americans in the City and in Bayview-Hunters Point were not so disparate, but in both cases the percentage of these groups was lower in Bayview-Hunters Point than in the City as a whole.

TABLE 3.6-1
COMPARISON OF SOCIOECONOMIC CHARACTERISTICS, SOUTH BAYSHORE PLANNING AREA AND THE CITY, 1990

DESCRIPTION	SOUTH BAYSHORE PLANNING AREA	CITY AND COUNTY OF SAN FRANCISCO
Population	28,255	723,959
Racial Diversity		
White	2,559 (9%)	338,917 (47%)
African American	17,239 (61%)	76,944 (11%)
Asian/Pacific Islander	6,123 (22%)	207,457 (29%)
Hispanic	2,258 (8%)	96,640 (13%)
Other	76 (<1 %)	4,001 (<1%)
Median Household Income	$25,485	$33,413
Median Age	30.8	35.7
Housing Vacancy Rate	6.55%	6.97%
Owner Occupancy Rate	53.1%	34.5%
Housing Units per Acre	2.9	11.0
Unemployment		
Overall Rate	13.3%	6.3%
White	3.3%	4.9%
African American	17.8%	13.5%
Asian/Pacific Islander	8.7%	6.1%
Hispanic Origin	8.1%	8.9%

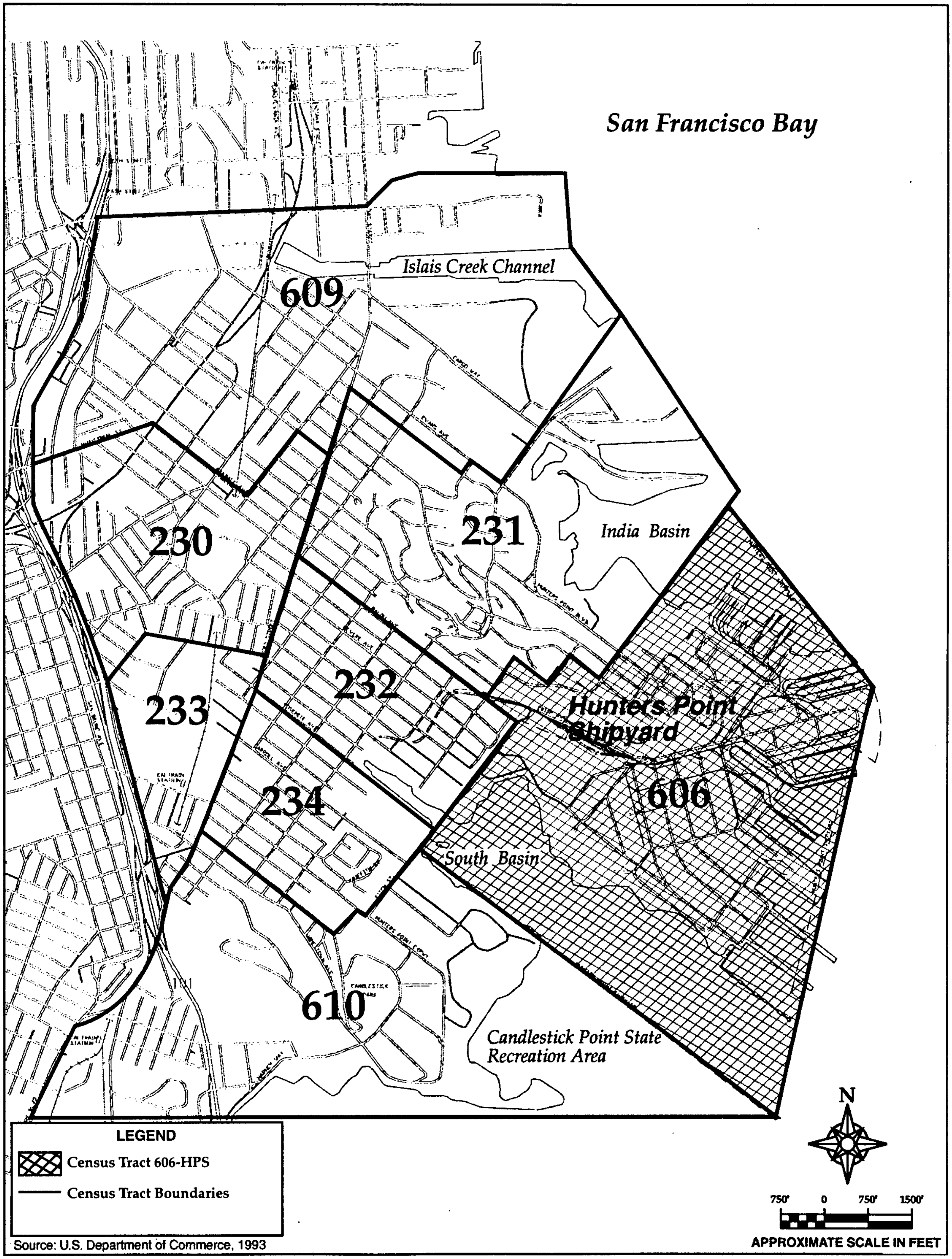
Source: City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1997d.

Note: Detailed demographic information is available from the dicennial census for both the City and the Bayview-Hunters Point neighborhood, but not from more current sources. Since 1990, while total population has grown, it is assumed that characteristics such as race and age have not changed substantially.

TABLE 3.6-2
PROJECTED POPULATION GROWTH, SOUTH BAYSHORE PLANNING AREA AND THE CITY, 1990-2020

	1990	2000	% Change 1990-2000	2010	% Change 2000-2010	2020	% Change 2010-2020
South Bayshore Planning Area	28,255	32,267	14%	39,586	23%	42,246	7%
City and County of San Francisco	723,959	785,885	9%	806,200	3%	793,394	-2%

Source: ABAG, 1997 and City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1997d.



Prod.: 141-15 HP EIR/EIS/ HP Figures 98/ 141-15 census.fh7 6/9/99 JL

Figure 3.6-1: Census Tracts

The median age for South Bayshore planning area residents was 30.8 years in 1990—lower than the City-wide median of 35.7 years. The percentage of senior citizens in the South Bayshore planning area population, 12.6 percent, was similar to the City-wide percentage of 14.6. The percentage of persons 18 years of age or under (29 percent), however, was almost double the City-wide percentage of 16.1 percent (U.S. Department of Commerce, Bureau of the Census, 1993).

3.6.3 Housing

The South Bayshore planning area's housing stock consists primarily of single-family units and subsidized rental units for low- and moderate-income families, although the trend in new construction is toward more multi-family units. In spite of this construction trend, the growth rate of single-family units in the South Bayshore planning area remains more than twice the growth rate for single-family units City-wide. The reason for this is that, while many areas of the City are built out, there still remains a substantial number of vacant infill single-family lots in the Bayview-Hunters Point neighborhood. In 1990, the average number of units per acre (0.4 ha) in the Bayview-Hunters Point neighborhood was 2.9, compared with 11.0 units per acre (0.4 ha) City-wide. This explains why Bayview-Hunters Point, which encompasses approximately 11 percent of the City's land base, contains only 4 percent of the City's population.

The housing vacancy rate in the South Bayshore planning area in 1990 (6.55 percent) was comparable to the rate for the entire City (6.97 percent). The homeownership rate in the Bayview-Hunters Point neighborhood is relatively high, as evidenced by the owner occupancy rate of 53.1 percent in 1990, compared with only 34.5 percent City-wide.

Table 3.6-3 shows the anticipated growth in households in the study area from 1990 to 2020. Households in both the Bayview-Hunters Point neighborhood and the City are expected to increase steadily throughout this period. An estimated 4,000 new housing units will be needed to accommodate the projected growth in households between 1990 and 2020. Household size in the Bayview-Hunters Point neighborhood is expected to remain higher than the average household size in the City.

Housing affordability is an important concern, both in the South Bayshore planning area and in the City. Housing prices in the South Bayshore planning area almost tripled between 1980 and 1990, increasing by 190.3 percent—similar to the 187.7 percent increase in housing prices City-wide. In 1990, the median value of an owner-occupied dwelling in the South Bayshore planning area was $201,600—lower than the City-wide median of $298,900. Studies indicate that the price gap between homes in

Bayview-Hunters Point and other parts of the City is narrowing (Sedway & Associates, 1991).

TABLE 3.6-3
PROJECTED NUMBER OF HOUSEHOLDS (AND AVERAGE HOUSEHOLD SIZE), SOUTH BAYSHORE PLANNING AREA AND THE CITY, 1990-2020

	1990	2000	2010	2020
South Bayshore Planning Area				
Projected # of Households	8,646	9,456	11,813	13,037
Average Household Size	3.20	3.39	3.33	3.23
City and County of San Francisco				
Projected # of Households	305,584	317,970	331,290	337,340
Average Household Size	2.29	2.40	2.36	2.28

Data Source: ABAG, 1997.

In 1990, almost a fourth (24.3 percent) of all families in the South Bayshore planning area were living below the poverty level, compared with only 9.7 percent of households City-wide. The median household income in Bayview-Hunters Point was $25,485, below the City-wide median household income of $33,413. The median household income in each of the eight South Bayshore planning area census tracts ranged from $15,089 to $70,543 in 1990 (U.S. Department of Commerce, Bureau of Census, 1993).

3.6.4 Employment

The San Francisco Bay Area region experienced a relatively severe economic recession and some job loss during the early 1990s; however, regional economic recovery is well underway. In 1995, there were over three million jobs in the region. ABAG projects that regional employment will approach four million by 2010. The trend of decentralization of jobs away from urban areas to suburban areas is also expected to continue over the next several decades. The East Bay and North Bay counties will continue to capture an increasing share of total jobs in the region (ABAG, 1997; City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1998).

City and County of San Francisco

The City plays an important role as a job center, with diverse linkages to the regional economy (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1997d). The City has recovered from the job losses experienced during the early 1990s and has returned to a period of economic expansion. As Table 3.6-4 shows, total employment in the City is expected to increase by about 19 percent from 1990 to 2020. Most of this growth will occur in services, with some growth also expected in the manufacturing (including high technology) and retail trade sectors (ABAG, 1997).

TABLE 3.6-4
PROJECTED EMPLOYMENT BY SECTOR,
CITY AND COUNTY OF SAN FRANCISCO, 1990-2020

	1990	2000	2010	2020	% Change 1990 to 2020
Agriculture, Forestry, Mining	2,247	2,421	2,278	2,259	1%
Manufacturing	38,926	39,941	42,797	45,459	17%
Wholesale Trade	29,904	23,916	23,626	22,730	-24%
Retail Trade	78,384	78,046	82,799	86,441	10%
Services	224,504	260,231	294,531	330,427	47%
Other	192,683	182,373	192,457	192,329	0%
Total	566,648	586,928	638,488	679,654	20%

Data Source: ABAG, 1997.

Although not anticipated to be the source of substantial employment growth, corporate headquarters and Federal and state government offices will maintain a presence in the City. The City will continue to be a regional and national center for the finance sector, printing and publishing, advertising, design, and other business and professional services, as well as the multimedia sector. Other sources of economic expansion and job growth include the health care industry, educational services, and tourism and convention activity that supports retail, restaurant, entertainment, and other service sectors (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1998).

South Bayshore Planning Area

HPS was the major South Bayshore planning area employer from World War II until the base's deactivation in 1974. During its three decades of operation, HPS provided a steady source of employment for the nearby labor force and secured the economic vitality of the surrounding area. The loss of jobs and income associated with the base closure and the dramatic population loss resulting from clearing World War II housing on Hunters Point Hill led to an economic decline in the neighborhood.

Among the 15 established planning districts in the City, the South Bayshore planning area (the Bayview-Hunters Point neighborhood) has the fewest businesses (Williams-Kuebelbeck & Associates, 1994). Census data indicate that there were 1,129 businesses in the South Bayshore planning area in 1990, with the greatest concentrations of these located along Bayshore Boulevard and Third Street. These businesses consisted primarily of heavy commercial outlets, such as large lumber yards and hardware stores. Located on the periphery of the South Bayshore planning area, with direct access to U.S. 101, the Bayshore Boulevard commercial area serves as a regional market. Third Street, running through the middle of the South Bayshore planning area, is also a major thoroughfare, but with a greater number of neighborhood businesses. While immediately accessible to the surrounding Bayview-Hunters Point residential community, Third Street is relatively isolated from other parts of the City and region (City and County of San Francisco, Planning Department, 1995d).

Third Street, which is the neighborhood's main commercial area, has many empty storefronts and an overconcentration of liquor stores. Stimulating the development of new households and job opportunities is vital to increasing demand for retail services along Third Street. The proposed Third Street LRT project is planned not only to improve transit access to and from Bayview-Hunters Point but also to stimulate economic revitalization along the Third Street corridor (U.S. Department of Transportation, Federal Transit Administration and City and County of San Francisco, Planning Department, 1998).

Table 3.6-5 shows employment projections for Bayview-Hunters Point from 1990 to 2020. The total number of jobs in the Bayview-Hunters Point neighborhood is expected to increase about 30 percent over this period, compared with 20 percent employment growth for the City during the same period (Table 3.6-4). As in the City as a whole, the greatest increase is expected to be in service sector jobs, with smaller percentage gains in manufacturing and retail jobs.

Using "travel time to work" data from the 1990 census, a real estate economics analysis (Williams-Kuebelbeck & Associates, 1994) prepared for the South Bayshore planning area estimated that, at most, five percent of all employed South Bayshore planning area residents work within the area. This indicates a lack of hiring of neighborhood residents by local businesses.

In spite of the relative abundance of jobs in the Bayview-Hunters Point neighborhood, chronic unemployment has been a problem in the area. As shown in Table 3.6-1, in 1990 the unemployment rate in Bayview-Hunters Point was 13.3 percent, more than double the City-wide rate at that time. The unemployment rate among African-Americans in the area in 1990 was even higher, at 17.8 percent. Unemployment for the area's other ethnic groups was lower than the overall South Bayshore planning area rate, but still higher than the City-wide rate of 6.3 percent. Unemployment for Asians was 8.7 percent and for Hispanics, 8.1 percent. Unemployment for South Bayshore planning

TABLE 3.6-5: PROJECTED EMPLOYMENT BY SECTOR, BAYVIEW-HUNTERS POINT, 1990-2020

	1990	2000	2010	2020	% Change 1990 to 2020
Agriculture, Forestry, Mining	60	42	40	40	-33%
Manufacturing	3,981	5,283	5,553	5,814	46%
Wholesale Trade	4,070	3,252	3,152	2,890	-29%
Retail Trade	3,134	3,291	3,633	3,627	16%
Services	6,726	8,381	11,639	16,317	143%
Other	14,342	14,678	15,131	13,304	-7%
Total	32,313	34,927	39,148	41,992	30%

Data Source: ABAG, 1997.

area Whites (3.3 percent) was substantially lower than both the City-wide and South Bayshore planning area rates. Unemployment is a particularly serious problem for the young. In 1990, half of the unemployed South Bayshore planning area residents were under 30 years of age, and two-thirds of the unemployed African-American residents were under 30 (Jefferson Company, 1995).

Table 3.6-6 shows the number of employed residents in the Bayview-Hunters Point neighborhood for 1990 to 2020, with the City estimates shown for comparative purposes. While the number of employed residents in City is expected to increase by about 21 percent during this period, the number of employed residents of Bayview-Hunters Point is expected to increase by 69 percent, with most of this increase expected to occur between 2000 and 2010.

TABLE 3.6-6: EMPLOYED RESIDENTS, SOUTH BAYSHORE PLANNING AREA AND THE CITY, 1990-2020

	1990	2000	2010	2020	% Change 1990 to 2020
South Bayshore Planning Area	9,950	11,008	15,040	16,782	69%
City and County of San Francisco	391,277	403,637	455,600	473,010	21%

Data Source: ABAG, 1997.

3.6.5 Public Schools

The San Francisco Unified School District (SFUSD) provides public primary and secondary education in the City. The SFUSD operates 18 high schools, 17 middle schools, and 77 elementary schools (San Francisco Unified School District, 1997). Enrollment for the SFUSD during the 1997-98 school year was estimated at 63,127 students (Luk, 1998).

There are six public elementary schools in the South Bayshore planning area and vicinity, four of which also offer pre-kindergarten instruction. In September 1995, the former Jedidiah Smith Elementary School in the South Bayshore planning area reopened as the Gloria Davis Middle School. Before that time, most children within this age group were bused to middle schools outside the South Bayshore planning area. Thurgood Marshall High School is within the South Bayshore planning area, while the Philip Burton High School, located west of U.S. 101, is outside of the planning area. Students who live in the South Bayshore planning area are within the attendance boundaries for both of these high schools (San Francisco Unified School District, 1997).

Children throughout the South Bayshore planning area are bused to achieve racial integration. In 1982, a Federal court order was issued stating that each SFUSD public school was required to have at least four ethnic groups represented in its student population and that no more than 45 percent of the student population at each school could be of any one ethnic group. At alternative schools in the SFUSD, the proportion dropped to 40 percent. Where a child goes to school depends on a combination of factors: the attendance area in which the child lives, the school preference expressed by the child's family, the racial make-up of the child's neighborhood school, and the racial composition of the school selected by the family (SFUSD, 1998).

Elementary schools throughout the SFUSD generally operate at full capacity. A new state law limits class size to 20 students for kindergarten through third grade. Therefore, the SFUSD has had to use much of its previous excess capacity and, at many schools, bring in portable buildings to accommodate the additional classes resulting from class size reduction. At the middle and high school level, some schools in the SFUSD are at capacity or overcrowded, while others are under-enrolled (SFUSD, 1998).

ABAG estimates that there were 6,738 school-aged children (5 to 19 years of age) in the South Bayshore planning area in 1990, representing 24.1 percent of the area's population. In contrast, only 13.4 percent of the City's population was estimated to be of school age in 1990. By 2020, however, ABAG projects that the proportion of school-aged children in the South Bayshore area will be similar to that in the City as a whole, primarily because of minimal growth projected for the school-aged population in the planning area (in part because of the relatively high cost of family housing in the City compared with other parts of the region). Between 1990 and 2020, the number of school children in the South Bayshore area is expected to increase from 6,738 to 7,051, an increase of 5 percent. For the City as a whole, the number of children in this age group is expected to increase by 11 percent during this same time period. As a percentage of the South Bayshore area's population, school-aged children will decrease from 20.6 percent in 2000 to 18.3 percent in 2010. In 2020, school-aged children are expected to represent only 16.7 percent of the South Bayshore population, compared with 13.6 percent of the City-wide population (ABAG, 1998a).

3.7 HAZARDOUS MATERIALS AND WASTE

This section describes the existing conditions at HPS with regard to potential environmental contamination and debris that could be sources of releases to the environment. The ROI for hazardous materials and waste is HPS and surrounding areas that could be affected by hazardous materials or wastes originating at HPS or areas from which hazardous materials or wastes could migrate onto HPS.

Navy has identified all known areas of contamination on the property and will implement appropriate response actions to protect human health and the environment. The Basewide Environmental Baseline Survey identifies known areas of contamination for HPS (U.S. Navy 1998e).

Navy is in the process of planning and executing environmental restoration programs in response to releases of hazardous substances, pollutants, contaminants, petroleum hydrocarbons, and hazardous solid wastes at HPS. There are two major environmental restoration programs: the Installation Restoration Program (IRP) and the Compliance Program. The IRP identifies, assesses, characterizes, and remediates or manages contamination from past hazardous waste disposal operations and hazardous material spills. The IRP is described in Section 3.7.3. The Compliance Program addresses storage tanks (underground storage tanks [USTs] and aboveground storage tanks [ASTs]), asbestos-containing material (ACM), polychlorinated biphenyls (PCBs), radiation, and lead-based paint (LBP). The status of the Compliance Program in discussed in Section 3.7.4.

Navy prepared a Base Realignment and Closure (BRAC) Cleanup Plan for HPS in March 1997 (U.S. Navy 1997c). This plan summarizes the work completed and the work proposed for both the IRP sites and the Compliance Program. The Navy environmental program will continue after this EIS is final. There could be revisions to the details of the cleanup work, but these revisions would not change the situation described in this EIS and would not change the impact on any of the alternatives.

3.7.1 Site Background

HPS has been the site of industrial operations using hazardous materials since it first became a shipyard in 1868. Refer to Chapter 1, Section 1.2 for a description of the history of the HPS property. It operated as a Navy military installation from the late 1930s until 1974. Navy operations at HPS included ship building and maintenance, as well as research and testing work. These general operations entailed activities such as machine shop work, fuel storage and transport, metal fabrication and plating, and battery shop work. Fuels, lubricants, paints, solvents and other industrial chemicals were in use at HPS throughout most of its history as a military installation. Following deactivation in 1974, HPS was leased to tenants that used a variety of hazardous materials and generated hazardous wastes. A description of tenant operations is provided below in Section 3.7.2.

U.S. EPA placed HPS on the National Priorities List (NPL) in 1989. Sites on the NPL are cleaned up under U.S. EPA oversight following a formal process that involves state and local agencies, as well as public participation. To comply with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and other regulatory requirements, Navy has signed a Federal Facility Agreement (FFA) (see Section 3.7.5).

3.7.2 Existing Hazardous Materials Management

Navy Operations

Navy operations at HPS are minimal, restricted to approximately 25 staff at the caretaker site office, police, and fire departments. Small amounts of hazardous wastes generated by routine Navy operations (waste oil, spent painting materials, etc.) are disposed of in accordance with Navy's Large Quantity Generator Permit for HPS issued by U.S. EPA.

Tenant Operations

Since 1974, Navy has leased many of the buildings at HPS to private tenants. Current uses include storage space, art studios, offices, machine workshops, woodworking shops, automobile restoration garages, and recreational vehicle parking. In 1997, Navy conducted a hazardous materials survey of building tenants (U.S. Navy, 1998e): tenants reported use of paints, solvents, and petroleum hydrocarbons. Table B-40 in Appendix B provides a list of hazardous materials used (in November 1997) by HPS tenants.

As a condition of their leasing agreements, tenants are responsible for the management and appropriate disposal of their hazardous materials and wastes. Tenants are required to comply with all applicable laws and regulations pertaining to the use, treatment, storage, disposal, and transportation of hazardous materials and wastes. In addition, they are required to maintain and make available to Navy all records, inspection logs, and manifests that document compliance. The administering agency responsible for enforcing hazardous materials and waste handling regulations is the San Francisco Department of Public Health (DPH). Navy has given the DPH written authorization to inspect tenant facilities and enforce applicable regulations at DPH's discretion.

3.7.3 Summary of Contamination and the IRP Process

Introduction

For purposes of investigation and remediation, HPS has been divided into six parcels (designated Parcels A through F), with each parcel treated as an individual unit (Figure 3.7-1). Soil and groundwater in some areas of HPS have been contaminated by petroleum-based fuels, solvents, heavy metals, and radium. Some soil materials derived from the serpentinite bedrock that underlies about half the site contain naturally occurring asbestos and heavy metals. Much of HPS is built on dredged and other fill materials.

Contaminants at HPS could pose a risk to human health or the environment through inhalation, ingestion, or skin contact with one or more contaminants in soil and groundwater. Some contaminants could pose a risk to water or ecological resources through migration of contaminated groundwater or surface water to the Bay or wetlands. Human health risk assessments (HHRAs) were performed for Parcels A, B, C, D, and E. For each parcel, the HHRA addressed both a commercial/industrial reuse scenario and a residential reuse scenario. The primary exposure routes are ingestion of or skin contact with contaminated soils. Chemicals in groundwater do not pose a human health risk because (1) the groundwater is not used for drinking water, irrigation, or any other purpose and (2) although volatile organic compounds (VOCs) could potentially volatilize and migrate to the surface, the concentrations are not considered to be high enough to pose an unacceptable human health risk.

Navy qualitatively evaluated potential risks to ecological receptors at HPS as part of the basewide Phase 1A ecological risk assessment (U.S. Navy, 1994b), and U.S. EPA evaluated Parcel A in a screening level qualitative ecological risk assessment (QERA) (U.S. EPA, 1994a). In general, the risks to terrestrial ecological receptors are minimal because most of HPS is covered with asphalt, concrete, or buildings, and there is minimal and poor quality habitat. However, there is the potential for contaminants in groundwater to migrate to the Bay and affect aquatic receptors. Ecological risk assessments are currently being prepared for Parcels E and F.

Navy has identified 78 IR sites within Parcels A through F (Figure 3.7-2). Specific IR site descriptions, suspected materials associated with each site, and current status of each site are summarized in Table B-41 in Appendix B. A general overview of each parcel is given below.

Parcel A

Parcel A consists of about 88 acres (36 ha) of primarily uplands in the northwest portion of HPS. Parcel A is bounded by the other HPS parcels on the north, south, and east, and

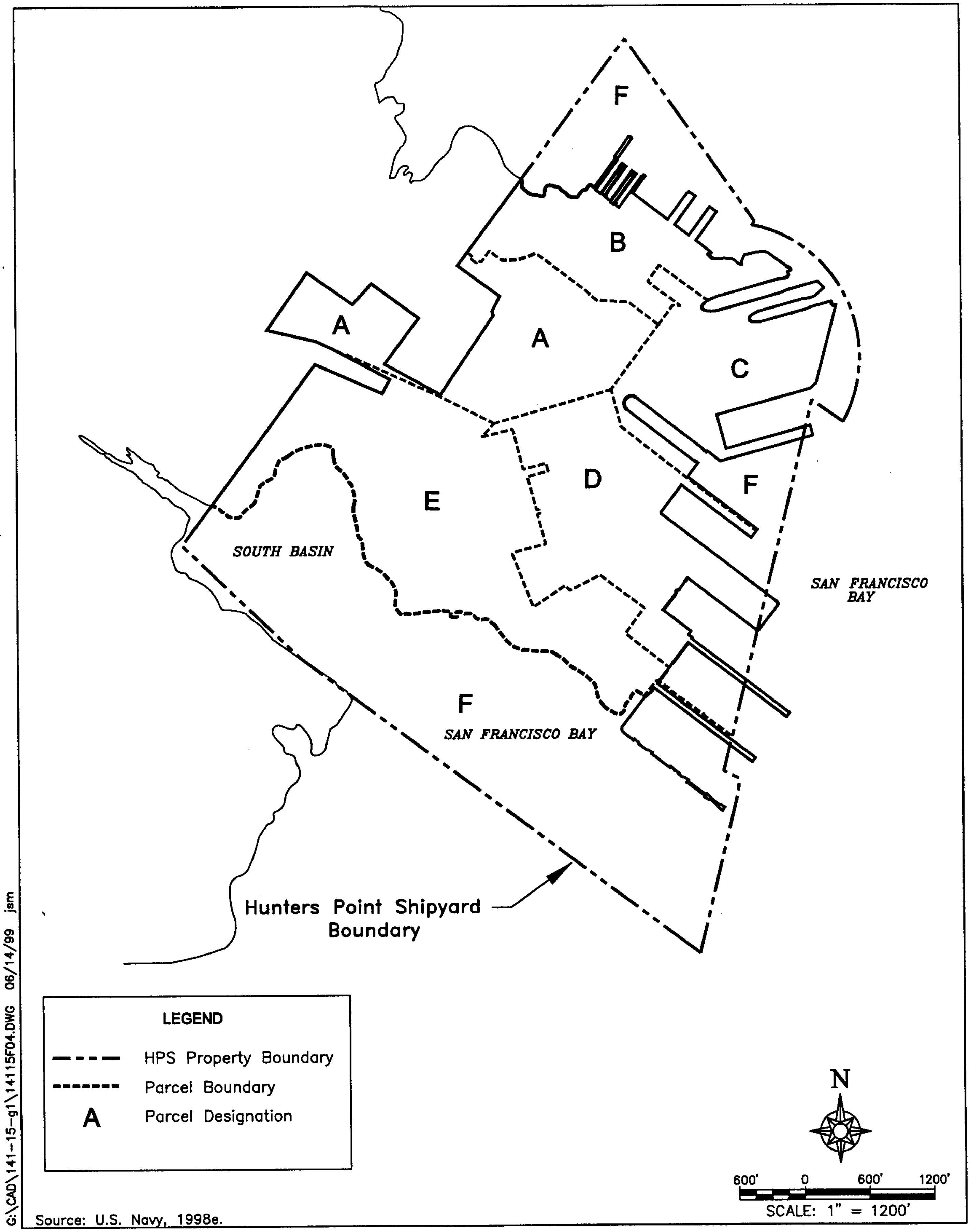


Figure 3.7-1: Hunters Point Shipyard Remediation Parcels

by the Bayview-Hunters Point neighborhood to the west. Parcel A was historically used for residential purposes.

Navy's IRP identified two sites: IR-59 Jerrold Avenue Investigation (JAI) and IR-59 (the groundwater underlying Parcel A). At IR-59 JAI, sandblast grit in soil containing paint chips was found to contain pesticides, low levels of semivolatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH) as diesel and motor oil, and metals. The soil and sandblast grit were excavated until confirmation sampling resulted in concentrations of pesticides below the limit of detection and metals within the range of ambient levels (U.S. Navy, 1995c). The excavation was backfilled with clean fill material.

No constituents of concern were detected above health-based levels in any of the groundwater samples (U.S. Navy, 1995d).

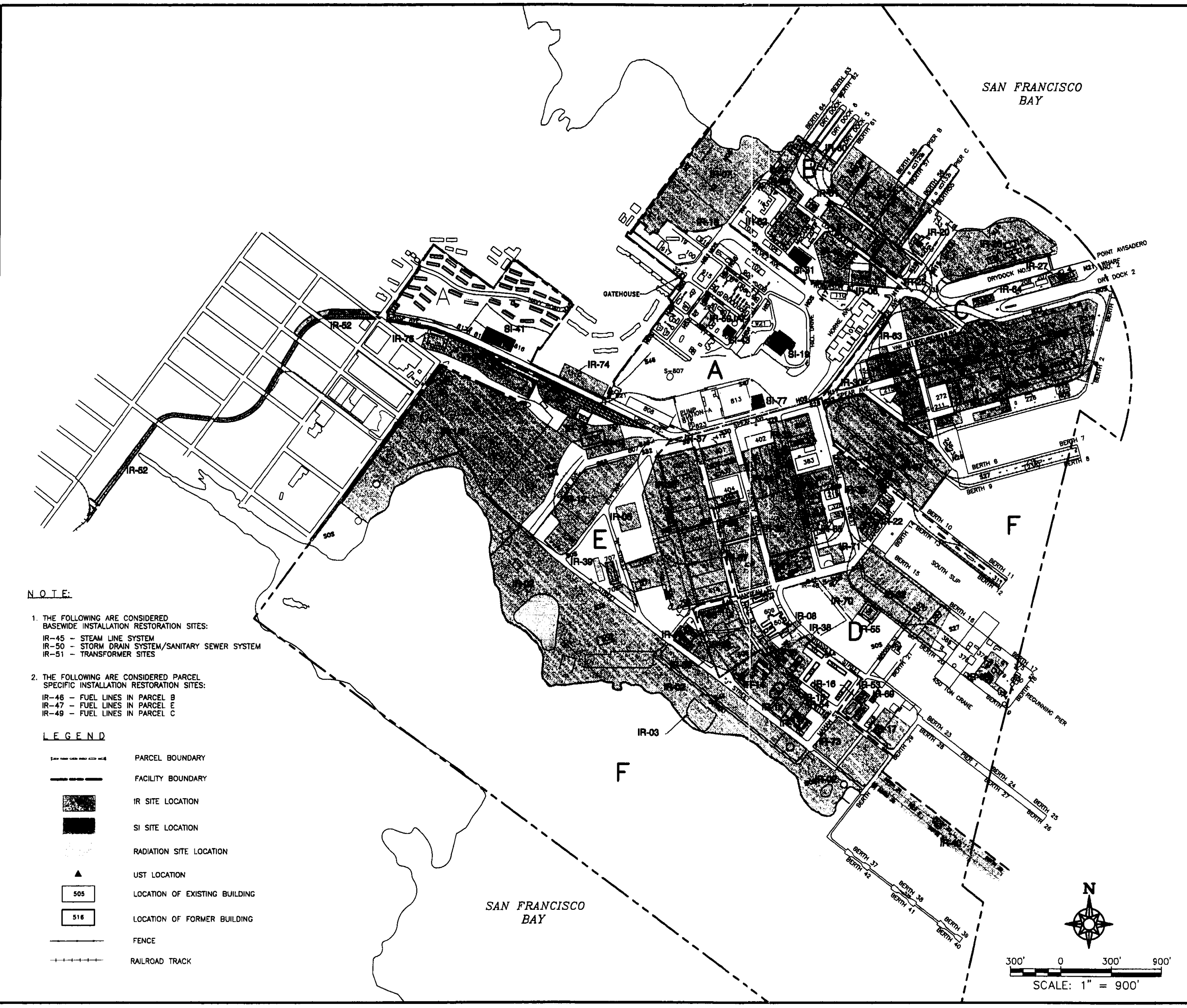
In November 1995, Navy and the regulatory agencies signed a CERCLA "no action" ROD for Parcel A. However, the parcel will be subject to deed notification so that future users of the parcel will be informed that motor oil was detected in the groundwater (U.S. Navy, 1995c). Parcel A was delisted from the NPL in April 1999.

Navy conducted additional soil sampling at Parcel A in 1997 to address concerns regarding lead-based paint releases to soil. The sampling results indicated that lead in soil at Parcel A does not pose a risk to human health and that no further action is required to protect human health. U.S. EPA provided written concurrence with this position.

In May 1999, the California Regional Water Quality Control Board (RWQCB) notified Navy that RWQCB must grant formal closure for a former UST site at Parcel A before transfer of the property. In September 1999, Navy submitted a formal request for closure of the UST site bases on the site's classification as a low-risk soil case. Navy is currently resolving RWQCB comments on the draft report. Formal UST site closure is anticipated in early 2000.

Parcel B

Parcel B consists of about 63 acres (26 ha) of shoreline and lowland coast in the northeast potion of HPS. Parcel B is bounded by Parcel A to the west, Parcel C to the south, and the Bay to the north and east. Historically, Parcel B was used predominantly for office and commercial buildings and warehouses. Navy also conducted industrial activities, such as fuel storage and distribution, sandblasting and painting operations, machining, acid mixing, and metal fabrication.



IR Site No.	REMEDIATION AREA DESIGNATION
1	Industrial Landfill (See IR Site 21 also)
2	Bay Fill
3	Oil Reclamation Ponds
4	Scrap Yard
5	Old Transformer Storage Yard
6	Tank Farm
7	Sub-Base Area
8	PCB Spill Area at Former Building 503
9	Pickling and Plate Yard
10	Battery and Electroplating Shop (Building 123)
11	Power Plant Area (Building 521)
12	Disposal Trench Area
13	Old Commissary Area
14	Oily Liquid Waste Disposal Area
15	Oily Waste Ponds and Incineration Tank
16	Container Storage Site
17	Drum Storage and Disposal Site
18	Waste Oil Disposal Area
19	Officers Club (Building 901)
20	Rubber Shop (Building 156)
21	Area Southwest of Building 801 (See IR-1 Site also)
22	Shop Service Buildings 368 and 369
23	Buildings 145, 146, 161, and 162
24	Buildings 124, 125, 128, and 130
25	Machine Shop (Building 134)
26	Nondestructive Testing Lab (Building 157 and Area North of Dry Dock 3)
27	Pump and Compressor Plant (Building 205)
28	Buildings 211/253, 219, 229, 230, 231, 258, 270, 271, 273, and 281
29	Buildings 203, 217, 275, 279, 280, and 282
30	Forge Shop (Building 241)
31	Building 114
32	Regunning Pier and Building 383
33	Buildings 116, 125, 302, 302A, 304, 364, 411, 417, and 418, 424
34	Buildings 351 and 366
35	Buildings 274, 306, 313, 313A, 322, 372 and the area bounded by Manseau, Morrell and E Streets
36	Buildings 371, 400, 404A, 405, 406, 413, 414, 704, 710
37	Buildings 401, 423, 435, 436, and 437
38	Building 500
39	Building 505
40	Building 527 and Pier 2
41	Buildings 816 and 818
42	Buildings 109, 113, and 113A
43	Gardening Tool House (Building 906)
44	Area Near Buildings 408, 409, 410, and 438
45–51	See Listing for Facility-Wide Utility Sites
52	Railroad Right-of-Way (Off site west of facility)
53	Building 525 and 530
54	Building 511A
55	Building 307 and Surrounding Area
56	Railroad Yard and Track Southwest of Crisp Avenue
57	Dry Dock 4 Area
58	Scrap Yard North of Building 258
59	Parcel A Groundwater Investigation (Not shown on map)
59JAI	Parcel A Jerrold Avenue Investigation
60	Dry Docks 5, 6, and 7
61	Substation V (Building 122)
62	Submarine Training (Buildings 115 and 116)
63	Former Building 278
64	Substation A (Building 206)
65	Carbon Dioxide Refilling Station (Building 324)
66	Office and Storehouse (Building 407)
67	Sheet Metal Shop (Building 439)
68	Area North of Building 378
69	Buildings 523 and Associated Metal Shed
70	Area Northeast of Building S-308
71	Crane Yard
72	Building 810 Area
73	Asphalt Batch Plant
74	Building 815 (formerly used defense site)
75	Building 820 (formerly used defense site)
76	Area Surrounding Buildings 830 and 831 (formerly used defense site)
77	UST Site S-812 at Building 813
78	Parcel F Subtidal Area
	FACILITY-WIDE UTILITY SITES NOT SHOWN
45	Steam Lines
46	Fuel Distribution Lines (Tank Farm)
47	Fuel Distribution Lines (Tank S-505)
48	Suspected Steamlines (Building 503)
49	Fuel Distribution Lines (Buildings 503)
50	Storm Drain and Sanitary Sewers
51	Former Transformer Locations

Figure 3.7-2: Installation Restoration Program Sites

G:\CAD\141-15-F\14115F05.DWG 09/03/98 RB

This page intentionally left blank for back of Figure 3.7-2

Based on past Parcel B activities and uses, Navy identified 16 IR sites at Parcel B where contaminants might have been released to soil or groundwater. The primary types of chemical contaminants detected in soil and groundwater in Parcel B include VOCs, SVOCs, pesticides, PCBs, TPH as gasoline and diesel, and metals. Identified sources of contaminants include leaking sumps containing VOCs; leaking fuel (gasoline and diesel) lines, ASTs, and USTs; releases of waste oil to the ground surface; sandblast material; overturned or leaking drums containing VOCs, fuel, or oil; VOCs and metals washed into floor drains that discharge to the storm drain system; and leaking transformers containing PCBs.

Petroleum hydrocarbon plumes in groundwater are located at a former tank farm (IR-06) and along the shoreline near Building 130. Floating hydrocarbons might be present locally, especially near source areas such as the fuel pipelines along the shoreline. A solvent plume is emanating from Building 123.

The HHRA for Parcel B concluded that, for the commercial/industrial scenario, carcinogenic risk exceeded acceptable levels in some areas (U.S. Navy, 1996e). For the residential scenario, both carcinogenic and noncarcinogenic risks exceeded acceptable levels in some areas. Therefore, remedial action is required.

Parcel B has not been found to pose a risk to existing terrestrial receptors. However, metals and other CERCLA-regulated substances in soil and groundwater could pose a risk to aquatic receptors in San Francisco Bay. These substances will be addressed by the IRP and included in a groundwater monitoring program for Parcel B.

A CERCLA ROD for Parcel B was signed by Navy and the regulatory agencies on October 7, 1997 (U.S. Navy, 1997f). Navy signed an Explanation of Significant Differences regarding soil excavation depth on October 13, 1998. Contaminated soils are being excavated and disposed of off site. The parcel will be subject to deed restrictions related to soil and groundwater. Remedial and removal actions conducted to date at Parcel B have involved the excavation and off-site disposal of approximately 64,000 cubic yards of contaminated soil and removal of about 12,000 and 4,900 linear feet of steam and fuel lines, respectively. However, CERCLA specifically excludes petroleum and fractions from the definition of a hazardous substance. Therefore, some areas at Parcel B IR sites that contain TPH only are not addressed as part of the CERCLA remedial action. These TPH-only sites will be addressed under the Parcel B petroleum Corrective Action Plan.

Parcel C

Parcel C consists of about 72 acres (29 ha) of shoreline and lowland coast along the east-central portion of HPS. Parcel C is east of Parcels A and D and is bounded to the north by Parcel B, to the east by the Bay, to the south by Berths 10 and 11, to the southwest by Drydock 4, and to the west by Fisher Avenue (Figure 3.7-1). Parcel C is the oldest portion of the shipyard and was used almost exclusively for industrial purposes, starting in the late 1800s. Fourteen IRP sites, 35 buildings, three drydocks, one wharf, nine ship berths, and one pier are located within the boundaries of Parcel C. The primary types of chemical contaminants detected in soil and groundwater at Parcel C include VOCs, SVOCs, pesticides, PCBs, TPH as gasoline and diesel, and metals. Identified sources of these chemicals include leaking sumps containing VOCs and SVOCs; leaking fuel (gasoline and diesel) lines and USTs; sandblast material; and leaking transformers containing PCBs.

Groundwater located in the eastern half and west-central portions of Parcel C contains petroleum hydrocarbon and chlorinated VOC plumes. Benzo(a)pyrene, an indicator of total polycyclic aromatic hydrocarbon (PAH) contamination in soil, was detected in the vicinity of Building 203 at IR-29 and Buildings 211, 231, and 272 at IR-28. Sites containing areas contaminated with petroleum hydrocarbons only in soil or groundwater are recommended for inclusion in the Parcel C petroleum Corrective Action Plan.

The HHRA performed for Parcel C indicates that some areas require remediation to meet acceptable risk levels. A final remedial alternative for Parcel C has not yet been selected. The draft final Parcel C RI report was completed in March 1997 (U.S. Navy, 1997d). The draft feasibility study (FS) for Parcel C was completed in February 1997 (U.S. Navy, 1997b). Regulatory agencies provided comments on the draft FS report in a series of meetings. Navy addressed these comments through interim deliverables consisting of revised sections of the FS report. Navy conducted a treatability study in 1997 and 1998 to resolve technical issues pertaining to the draft FS report. The findings of the treatability study are documented in a technical memorandum dated April 6, 1998. Navy completed the draft final Parcel C FS report in July 1998 (U.S. Navy, 1998k).

Navy conducted risk management review workshops for soil at Parcel C in 1999. Results are documented in a November 1999 draft risk management review technical memorandum. Preliminary results of the risk management review indicate that some areas initially identified in the RI and FS reports as soil remediation areas may not require any action to be protective of human health and the environment.

The next steps are to complete the risk management review process report and a technical memorandum for groundwater classification and analysis of the A- and B-Aquifer interconnections; prepare an FS addendum, proposed plan and CERCLA ROD; prepare remedial design documents and initiate remedial action; and complete a construction summary report for the remedial action. The final Parcel C remedies will be protective of both human health and the environment.

Parcel D

Parcel D consists of about 103 acres (41 ha) of southeast-central shoreline and lowland coast. Parcel D is bounded by Parcel A, Parcel C, Parcel E, and the Bay. Historically, the dominant land use of Parcel D has been for shipping, ship repair, offices, and commercial buildings.

Based on past activities and uses, Navy identified areas at 27 IR sites in Parcel D where contaminants might have been released to soil or groundwater. During regulatory agency discussion, IR-36 North, IR-36 South, and IR-36 West were moved to Parcel E, decreasing the total number of Parcel D IR sites to 24. The primary types of soil and groundwater contaminants at Parcel D include VOCs, SVOCs, PCBs, TPHs as gasoline and diesel, and metals. Identified sources include leaking sumps and floor drains containing VOCs, leaking USTs, leaking steam lines containing waste oils, releases of waste oils and petroleum hydrocarbons to the ground surface, sandblast material, and leaking transformers containing PCBs.

Metals and petroleum hydrocarbons in soil are present throughout Parcel D. The PCB Aroclor-1260 affects a large area in the vicinity of IR-08. Beno(a)pyrene, an indicator of total PAH contamination, was detected at IR-37, IR-33, and IR-34. Metals in groundwater at concentrations above screening criteria are widespread in Parcel D. Dense non-aqueous phase liquid (DNAPL) contamination in groundwater is suspected, but not confirmed to be present, in the vicinity of IR-08. Petroleum hydrocarbons in groundwater are present in the vicinity of IR-08 and IR-33. These areas of concern are addressed in the FS report (U.S. Navy, 1997a) and will be mitigated during implementation of the soil and groundwater remedial actions selected for Parcel D. Sites containing areas contaminated with petroleum hydrocarbons only in soil or groundwater are recommended for inclusion in the Parcel D petroleum Corrective Action Plan.

The HHRA performed for Parcel D indicates that there are areas that will require remediation to meet acceptable U.S. EPA risk levels (U.S. Navy, 1996f). CERCLA constituents were not found to pose a significant ecological risk.

Navy completed the draft final Parcel D RI report in October 1996 (U.S. Navy, 1996f). The draft final Parcel D FS was submitted in January 1997 (U.S. Navy, 1997a). The proposed plan for Parcel D was published on May 11, 1997, and a public meeting held on May 21, 1997. Site IR-36 was removed from the proposed plan and included in Parcel E. The draft CERCLA ROD was prepared on November 3, 1997.

Navy conducted risk management review workshops for soil in January through April 1999. Results are documented in a June 1999 draft risk management report. Preliminary results of the risk management review indicate that some of the areas initially identified in the RI and FS reports as soil remediation areas may not require any action to be protective of human health and the environment.

The next steps are to complete the risk management review process report and a technical memorandum for groundwater classification and analysis of the A- and B-Aquifer interconnections; prepare an FS addendum, proposed plan and CERCLA ROD; prepare remedial design documents and initiate remedial action; and complete a construction summary report for the remedial action. The final Parcel D remedies will be protective of both human health and the environment.

Parcel E

Parcel E consists of about 167 acres (68 ha) of shoreline and lowland coast in the southern portion of HPS. Parcel E is bounded by Parcel A to the north, Parcel D to the north and east, the Bay to the south and east, and privately-owned property to the west Nearly all of the Parcel E land area was developed from artificial fill. Historically, Parcel E was a mixed-use and industrial area that supported HPS shipping and ship repair activities. The shoreline areas were used to store construction and industrial materials, as well as to dispose of industrial waste and construction debris. In addition, the Naval Radiological Defense Laboratory (NRDL) used many Parcel E buildings during the 1950s and 1960s.

Properties located outside the HPS facility boundary but currently included in the Parcel E IRP are the formerly used defense sites (FUDS) and the railroad right-of-way. The FUDS are buildings and land formerly owned and used by Navy that have since been transferred to nonmilitary owners. Navy is coordinating the FUDs cleanup requirements as they relate to the HPS IRP, even though the FUDs program falls under the responsibility of the Corps of Engineers. The Navy-owned railroad right-of-way is currently used by the Golden Gate Railroad Museum for transporting trains to a restoration area in Parcel E.

Twenty-one IR sites are located entirely or partially in Parcel E. The primary types of chemical contaminants detected in soil and groundwater in Parcel E include VOCs, SVOCs, TPH, PCBs, and metals. Identified sources of contamination include debris zones in the former industrial landfill (IR-01/21), former oil reclamation ponds (IR-03), leaking ASTs and USTs, surface waste disposal sites, sandblast waste, and scrap yards (U.S. Navy, 1997f). Low-level solvent plumes and petroleum hydrocarbons in groundwater are located throughout Parcel E. Floating hydrocarbons are located at the former oil reclamation ponds and aboveground waste oil tanks. Interim removal actions at IR-01/21 and IR-03 will address immediate groundwater and soil concerns, respectively, in these areas. Sites containing areas contaminated with petroleum hydrocarbons only in soil or groundwater at concentrations exceeding screening criteria are recommended for further evaluation under the Parcel E petroleum Corrective Action Plan.

The HHRA performed for Parcel E indicates that some areas will require remediation to meet acceptable risk levels for proposed future uses (U.S. Navy, 1997f). Navy submitted the draft final Parcel E RI report to the regulatory agencies in May 1997 (U.S. Navy 1997g) and the draft FS report in January 1998 (U.S. Navy, 1998a). Navy is currently conducting an ecological risk assessment for Parcel E. The results of this study will assist in the development of ecological cleanup criteria, which will be incorporated into the draft final Parcel E FS. Navy conducted risk management review workshops for soils in Parcel E in the latter part of 1999. Preliminary results of the risk management review indicate that some of the areas initially identified in the RI and FS reports as soil remediation areas may not require any action to be protective of human health and the environment.

The next steps are to complete the risk management review process report and a technical memorandum for groundwater classification and analysis of the A- and B-Aquifer interconnections; prepare an FS addendum, proposed plan and CERCLA ROD; prepare remedial design documents and initiate remedial action; and complete a construction summary report for the remedial action. The final Parcel E remedies will be protective of both human health and the environment.

Parcel F

Parcel F consists of about 443 acres (180 ha) of submerged lands under the Bay. The entire parcel is considered IR-78. Offshore sediments at HPS contain trace metals, SVOCs, PAHs, organochlorine pesticides, PCBs, organotins, and tributyltin. Potential sources of contamination include the industrial landfill, storm drain outfalls, other shoreline IR sites, non-Navy sites and industrial activities, and general urban runoff adjacent to the Bay.

There is a potential pathway for human exposure to contaminated sediments in Parcel F through ingestion of contaminated fish. Navy is addressing this issue in consultation with the regulatory agencies. Ecological receptors could be exposed to chemicals of concern in sediment and pore water through several exposure pathways, depending on the habitat type and potential receptor considered (U.S. Navy, 1996g).

Parcel F comprises three basic habitat types: aquatic, intertidal mudflat, and wetland. Potential receptors include benthic (ocean or Bay floor) invertebrates, fish, birds, and marine mammals. The primary exposure pathway for benthic invertebrates is long-term contact with sediments and pore water and absorption of dissolved chemicals. The primary exposure pathway for fish is ingestion of contaminated prey and incidental ingestion of sediment. The primary exposure pathway for birds, including shorebirds, waterfowl, and terrestrial birds that prey on shorebirds, is ingestion of contaminated prey.

Parts of Parcel F are characterized by concentrations of chemicals that are generally toxic to aquatic life, such as copper, lead, mercury, and tributyltin. Other portions of Parcel F are characterized by concentrations of metals, PCBs, and dichlorodiphenyltrichloroethane (DDT) that are elevated over ambient levels for San Francisco Bay sediments. Some of these chemicals, such as DDT, PCBs, and mercury, have high bioaccumulation factors, which means that they accumulate and are magnified in the natural food chain. Elsewhere in Parcel F, concentrations are only slightly elevated over ambient levels. Ecological receptors in these areas are therefore unlikely to be exposed to greater risk than is present on average throughout the Bay.

In general, benthic invertebrates, benthic fish, shorebirds, and waterfowl are exposed to the potential risk. Pelagic (open sea) fish, marine mammals, and pelagic birds, such as the brown pelican and raptors, may also be susceptible to bioaccumulation. These receptors, however, have relatively large ranges that reduce their risk of exposure to Parcel F contaminants, because they obtain food over a larger area than HPS.

Navy has not yet selected the final remedy at Parcel F. Remediation alternatives being considered include dredging and placement of contaminated sediments in a near-shore confined disposal facility; on-site placement of dredged sediments in a constructed wetland; dredging and placement of soils in a dewatering facility, followed by off-site disposal; and capping contaminated sediments in place (U.S. Navy, 1998d). In conjunction with these possible remedial alternatives, Navy could propose future on-shore source control measures for potential sources of contamination to Bay sediments within Parcel F. The source control measures have been conducted, or are proposed for implementation, in combination with the final remedial actions at the other parcels. These measures include the completed facility-wide storm drain sediment removal program, completed sandblast grit removal project, completed facility-wide exploratory excavation removal actions, and proposed storm drain relining program (to address leaking sections). The final Parcel F remedies will be protective of human health and the environment.

Basewide IR Sites

As part of the RI/FS process for HPS, Navy investigated basewide utilities for potential contaminants. The utilities investigated consisted of storm drains and sanitary sewers (IR-50), steam lines (IR-45), and former PCB-containing transformer sites (IR-51). Areas where contamination was confirmed in the steam lines and former PCB-containing transformer sites are included as part of the proposed remedial actions for each parcel.

In IR-50, only portions of storm drains containing contaminated sediments were found to pose a potential risk of possible migration of contaminated sediment to San Francisco Bay. To address this potential risk, Navy completed a removal action for contaminated sediments in 1997. The storm drain lines and associated catch basins and manholes were cleaned in Parcels B, C, D, and E. Concurrent with the storm drain line cleaning, associated catch basins and manholes were inspected for sediments and liquids and were cleaned. The sediments were removed from the system and properly disposed of off site. Navy is evaluating sections that could still allow migration of contaminated groundwater to the Bay. If sections indicate infiltration of contaminated groundwater, Navy will take action on the storm drain lines to minimize possible leakage and migration to the Bay (U.S. Navy, 1998c).

3.7.4 Basewide Environmental Compliance Programs

Other Navy remediation efforts at HPS address PCBs, ACM, lead-based paint (LBP), storage tanks, and radiation. Navy implemented these efforts on a facility-wide basis, rather than a parcel-specific basis, because the potential contamination issues are not parcel-specific.

Polychlorinated Biphenyls

Under the IRP, Navy surveyed and evaluated 78 transformer locations with greater than 50 parts per million (ppm) PCBs for leakage and contamination. (Transformer oil with PCBs greater than 50 ppm becomes hazardous waste when the oil is no longer in use; however oil with PCBs can still be used.) In addition, Navy visually evaluated 118 sites, at which transformers had been removed before 1988, for staining by leaking oils containing PCBs. Additional work was proposed to address equipment with PCB concentrations in the 5 to 50 ppm range.

The following equipment is in active use: 11 pieces of non-PCB equipment with concentrations greater than 5 ppm; 1 piece of PCB equipment; and 2 pieces of PCB-contaminated equipment (U.S. Navy, 1998e). All other equipment is out of service/abandoned or has been removed. PCBs were also detected in soils in Parcels B, C, D, E and F. Remediation will be addressed through the IRP for each parcel.

Asbestos–Containing Material

ACM is defined by U.S. EPA as a material containing greater than one percent asbestos. DOD policy states that all property containing ACM will be conveyed, leased, or otherwise disposed of as-is through the BRAC process unless ACM is determined to pose a threat to human health at the time of transfer. ACM is generally considered to be potentially hazardous when it is damaged or friable (a state in which the material can be crushed, pulverized, or crumbled by hand pressure when dry) and accessible. Navy has inspected all the buildings and structures at HPS for ACM (ECC, 1995). ACM was confirmed or assumed to be present in 213 buildings and structures. Navy has completed abatement of hazardous ACM in buildings within Parcels A through E (U.S. Navy, 1998e). Prior to property disposal, available information on the existence, extent, and condition of ACM will be incorporated into appropriate documents, to be provided to the transferee.

Lead-Based Paint

DOD policy regarding LBP in residential areas is to manage it in a manner protective of human health and the environment and to comply with all applicable laws and regulations. Navy has conducted an LBP and soil survey at Parcel A. Based upon human health risk assessments, detected lead concentrations are within the range of acceptable concentrations for lead in soil (U.S. Navy, 1993 and 1997b). Navy conducted LBP surveys of existing residential units only. Since all residential units are located in Parcel A, no surveys for LBP or LBP-derived soil contamination were conducted in the other parcels.

Storage Tanks

Underground Storage Tanks

Navy removed 36 USTs and closed 10 USTs in place in 1991 and 1993 (U.S. Navy, 1997c). Navy removed three hazardous waste dipping tanks used in the former electroplating shop outside Building 411 in 1996. Two additional USTs in the vicinity of Building 439 will be closed in place as part of the remedial action for Parcel D. No contamination was detected in the vicinity of these tanks (Sickles, 1998d).

One unconfirmed UST associated with HPS operations remains. Its exact location is not known, but historical data suggest that it may be located between IR-75 and IR-76 (FUDS) on a privately owned site. This potential UST was identified based on review of Sanborne insurance maps and is documented in the Draft Final RI for Parcel E (U.S. Navy, 1997f). Recommended investigations include geophysical exploration to confirm the location of the UST, followed by installation of monitoring wells and soil borings to evaluate whether contamination is present. These activities are expected to be completed by the middle of 2000, with formal UST site closure by 2001.

Most of the USTs at HPS contained petroleum products or water. Ten tanks contained either waste oils or solvents, which would be considered hazardous substances under U.S. EPA or state hazardous substances regulations (U.S. Navy, 1998e). During all removals or closures in place, representatives from the San Francisco DPH and DTSC were present and witnessed the environmental activities. Documentation of these activities was submitted to the DPH.

Because most of the tanks leaked and require remediation, the jurisdiction for the UST investigation was transferred to the RWQCB. Navy will remediate all non-CERCLA petroleum hydrocarbon contamination associated with the USTs under the petroleum corrective action plans. Once all remediation is complete, the RWQCB will certify the cleanup and issue "no further action" (site closure) documentation.

Aboveground Storage Tanks

Navy has removed numerous ASTs at HPS. Some of the tanks had obvious signs of leakage or presented an imminent threat of leakage. These tanks contained petroleum products or water, except for two ASTs that contained solvents. Associated contaminated soil was excavated and properly disposed of off site. IR-06, the former tank farm, was graded and a liner installed as a temporary cap (U.S. Navy, 1998e).

In June 1997, eight AST locations (Buildings 203, 211, 258, 302, 521, 405, and 809, and the South Pier) were inspected (U.S. Navy, 1998e). There are eight tanks remaining at these sites. Some of the tanks are empty; others contain petroleum hydrocarbons or water. All tank areas will be closed in accordance with regulatory requirements.

Petroleum Hydrocarbons

Navy plans to prepare Corrective Action Plans for TPH in soil and groundwater for Parcels B, C, D, and E. The fifth on-shore parcel, Parcel A, does not have a proposed Corrective Action Plan based on the RWQCB's evaluation that the level of petroleum hydrocarbons encountered did not require one. The purpose of the corrective action plans will be to identify and evaluate remedial alternatives for soil, groundwater, and surface water containing TPH to mitigate effects from the contamination in each of the parcels. The TPH constituents that present a risk to human health are benzene, toluene, ethylbenzene, and xylenes. The HHRA evaluated these risk components for each parcel and found them to pose no human health risk. However, ecological receptors tend to be sensitive to TPH as a whole. Remediation levels for protection of aquatic life will be developed for TPH as gasoline, diesel, and motor oil. Navy's remediation of TPH will be integrated with the remediation of CERCLA-regulated chemicals in each parcel and will be protective of human health and the environment.

Radiation

As part of the IR, Navy performed radiation investigations at HPS in three phases. Phase I consisted of a surface confirmation radiation survey that included air and soil sampling. Phase II focused on the subsurface distribution of radioactive point sources detected in the top 1 foot (0.3 m) of soil during Phase I. The Phase III radiological investigation was implemented to address concerns regarding the former use, storage, and disposal of radioactive material associated with past U.S. Naval Radiological Defense Laboratory (NRDL) operations at HPS.

During Phase I, elevated gamma activity was detected on the surface in limited areas within Parcels B, D, and E. Elevated gamma count rates at the surface in Parcel B were isolated to a fill slope associated with road construction on base; soil samples indicated the source of the elevated gamma count to be radium-226 (Ra-226) and its decay products. Based on the surface survey results, Navy recommended characterizing the soil down to 1 foot (0.3 m) bgs for radiological constituents.

The Phase II investigation included a subsurface radiation survey of several areas within Parcels B and E. This phase of the investigation was intended to evaluate source material and the lateral and vertical extent of the elevated gamma count rates observed during Phase I. Navy, in coordination with the U.S. EPA, found that Ra-226 was a naturally occurring radioactive material bound within the mineralogy of the granitic fill material and recommended no further action in Parcel B (U.S. Navy, 1998e).

The purpose of the Phase III radiation investigation was to address the former use, storage, and disposal of radioactive material associated with past NRDL operations at HPS, with the intent of eventually releasing all remaining buildings and sites for unrestricted use. Nine buildings, a concrete drum storage pad, and the low-level radioactive waste storage tank vault were investigated. Surface soil sampling and gamma ray count rate measurements were conducted at the buildings and the drum storage pad; swipe sampling was performed at the low-level radioactive waste storage tank vault. The Navy Radiological Affairs Support Office has recommended that most sites be released for unrestricted use. Further investigation and/or remediation is required at four sites:

- Asphalt adjacent to the secondary containment vault behind Buildings 364 and 365 (Parcel D): cesium and associated elements strontium and europium.
- Concrete adjacent to Building 707 (Parcel E): cesium and associated elements cobalt and europium.
- Site of former Building 509 (Parcel E): one radioluminescent instrument dial.
- IR-02 (Bayfill site) (Parcel E): numerous radioluminescent instrument dials scattered below the surface at depths of six inches or more.

Final cleanup actions at HPS will incorporate radiological concerns and will be protective of human health and the environment.

3.7.5 Regulatory Framework

The following is a discussion of the regulatory framework that applies to hazardous materials and waste at HPS.

Federal Facility Agreement and Installation Restoration Program

Navy, U.S. EPA Region 9, RWQCB, and the Department of Toxic Substances Control (DTSC) signed an FFA (U.S. Navy, 1991) for HPS to meet regulatory requirements, establish a single cleanup program agreed upon by all responsible regulatory agencies, and ensure that cleanup occurs in a timely manner. The FFA establishes a procedural framework and schedule for ensuring that environmental impacts associated with past Navy activities at HPS are investigated and remediated to protect human health and the environment pursuant to the following statutes and associated regulations:

- CERCLA, 42 U.S.C.A. §§ 9601-9675 (West, 1995 and Supp. 1998)
- RCRA, 42 U.S.C.A. §§ 6901-6992k (West, 1995 and Supp. 1998)
- National Contingency Plan (NCP), 40 C.F.R. §§ 300.1-300.1105
- Defense Environmental Restoration Program (DERP), 10 U.S.C. § 2701-2708
- Executive Order 12580, *Superfund Implementation*
- Applicable state laws

Regulatory Requirements

Hazardous materials and waste regulations are implemented by a number of government agencies including, but not limited to, U.S. EPA, RWQCB, CAL EPA, San Francisco DPH, and the San Francisco Fire Department. Each agency has established regulations regarding the proper management of hazardous materials and hazardous waste for specific operations and activities.

All construction projects equal to or greater than five acres in size require an NPDES General Construction Stormwater Discharge Permit. As part of the permit, a Storm Water Pollution Prevention Program (SWPPP) must be prepared to identify all material storage areas, construction vehicle/equipment staging areas, and any other areas where hazardous materials are used and stored. The SWPPP must include Best Management Practices (BMPs) to ensure that unauthorized discharges of hazardous material do not occur during construction.

3.8 GEOLOGY AND SOILS

This section describes the geology at HPS, including topography, geology and soils, erosion, landsliding, and seismic hazards. The ROI for geology and soils is the South Bayshore planning area.

3.8.1 Topography

The site terrain includes an east-west trending linear ridge with steep slopes surrounded by flatlands. Elevation ranges from sea level to about 130 feet (40 m) above mean sea level (MSL). Most of the site is low-lying, with elevations below 25 feet (8 m) above MSL (Figure 3.8-1).

3.8.2 Regional and Site Geology and Soils

HPS lies within the coast range geomorphic province of California. The dominant geologic processes that shape the landscape in the vicinity of HPS are the uplift of the San Francisco Peninsula and East Bay hills and the downdropping of the Bay, caused by recent strike-slip motion along the faults that comprise the San Andreas fault system (Figure 3.8-2). Movement along these faults and older geologic processes have combined to juxtapose varied and dissimilar rocks throughout the region.

The geologic materials at HPS include bedrock and a variety of relatively loose deposits, including fill and Bay Mud. The bedrock is composed of a mixture (melange) of Franciscan formation sandstone, shale, marine chert, serpentinite, and altered volcanic rocks. Serpentinite that underlies major portions of hillsides and slopes at HPS contains naturally occurring chrysotile asbestos (U.S. Navy, 1996d), which could become a health hazard if released and inhaled. Serpentinite deposits also typically contain high concentrations of chromium, nickel, magnesium, and other metals, relative to other geologic materials. The low-lying areas of HPS consist of loose unconsolidated artificial fill materials that overlie saturated Bay Mud and undifferentiated sand deposits (Figure 3.8-3).

Soils at HPS consist mainly of undeveloped fine sands and silts on artificial fill materials. Soils developed over bedrock include Bicknell sandy loam and Montarra gravely loam. The distribution of soils is shown on Figure 3.8-4.

3.8.3 Geologic Processes

Erosion

Erosion of soils can be caused by wind and water processes. Wind erosion occurs through removal of loose particles in areas lacking substantial vegetative cover. Areas with the greatest potential for erosion at HPS include the rock escarpment and soil boundary along Hunters Point Hill, as well as the west-central portion of Hunters Point Hill (Figure 3.8-1).

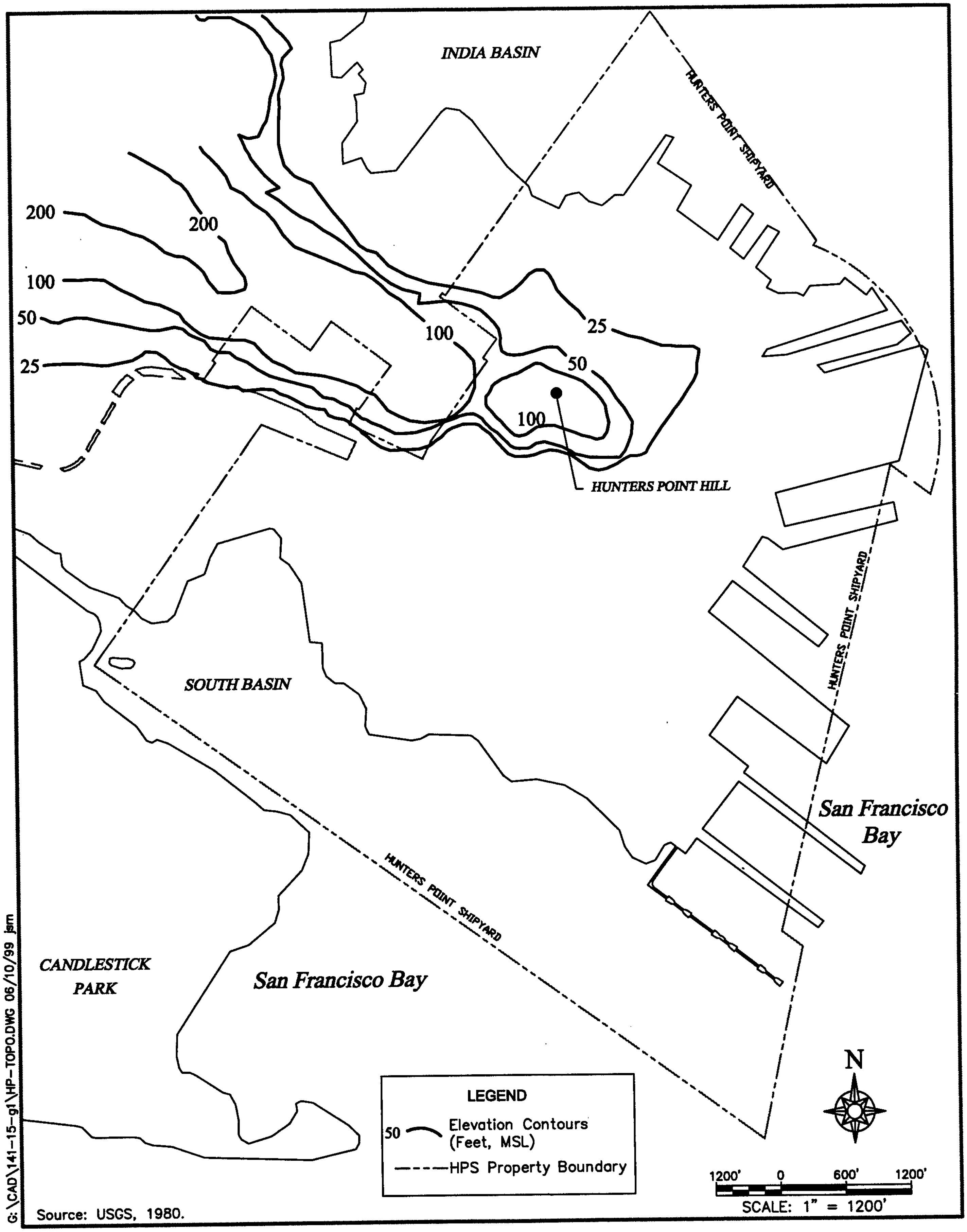


Figure 3.8-1: Topography, Hunters Point Shipyard

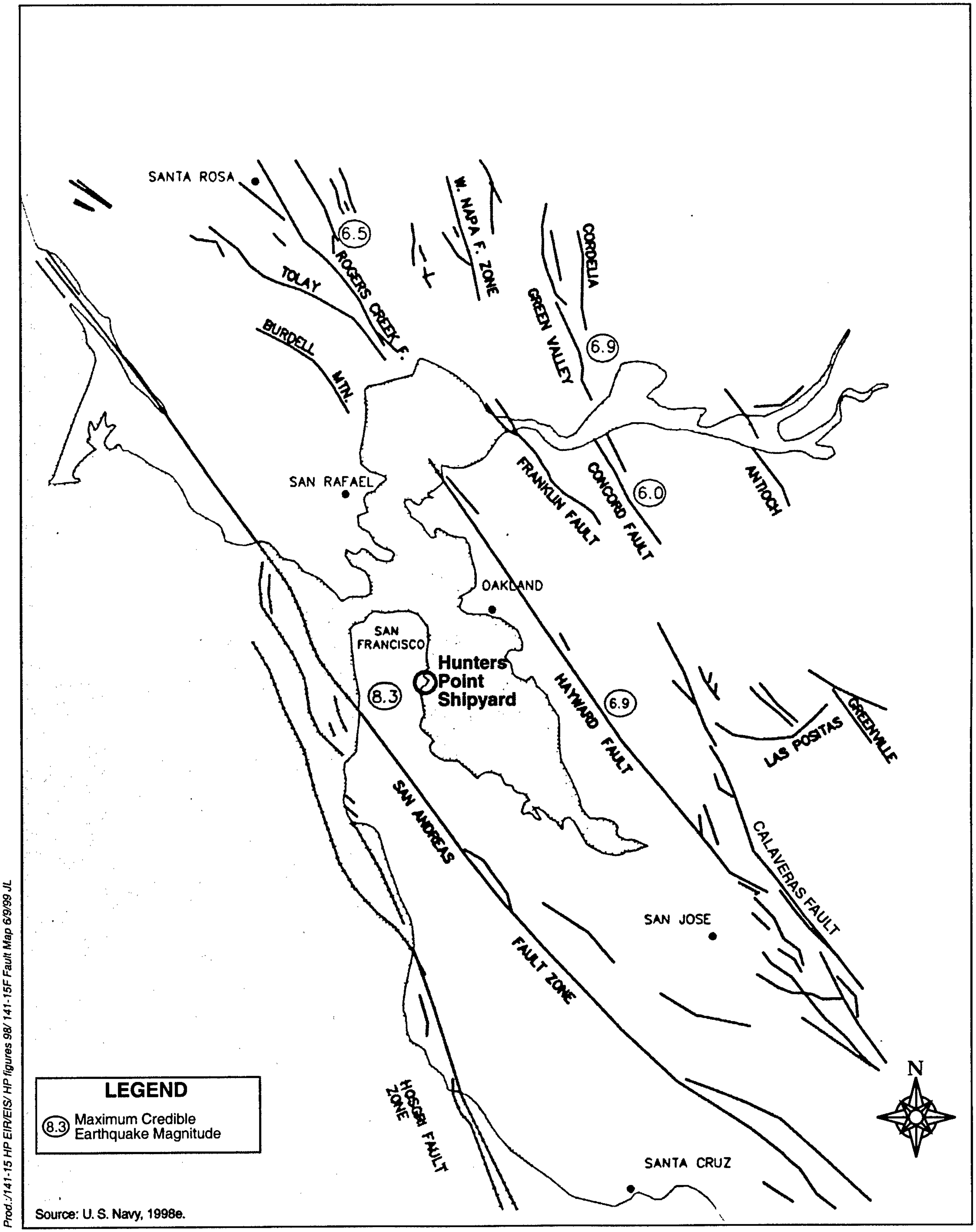
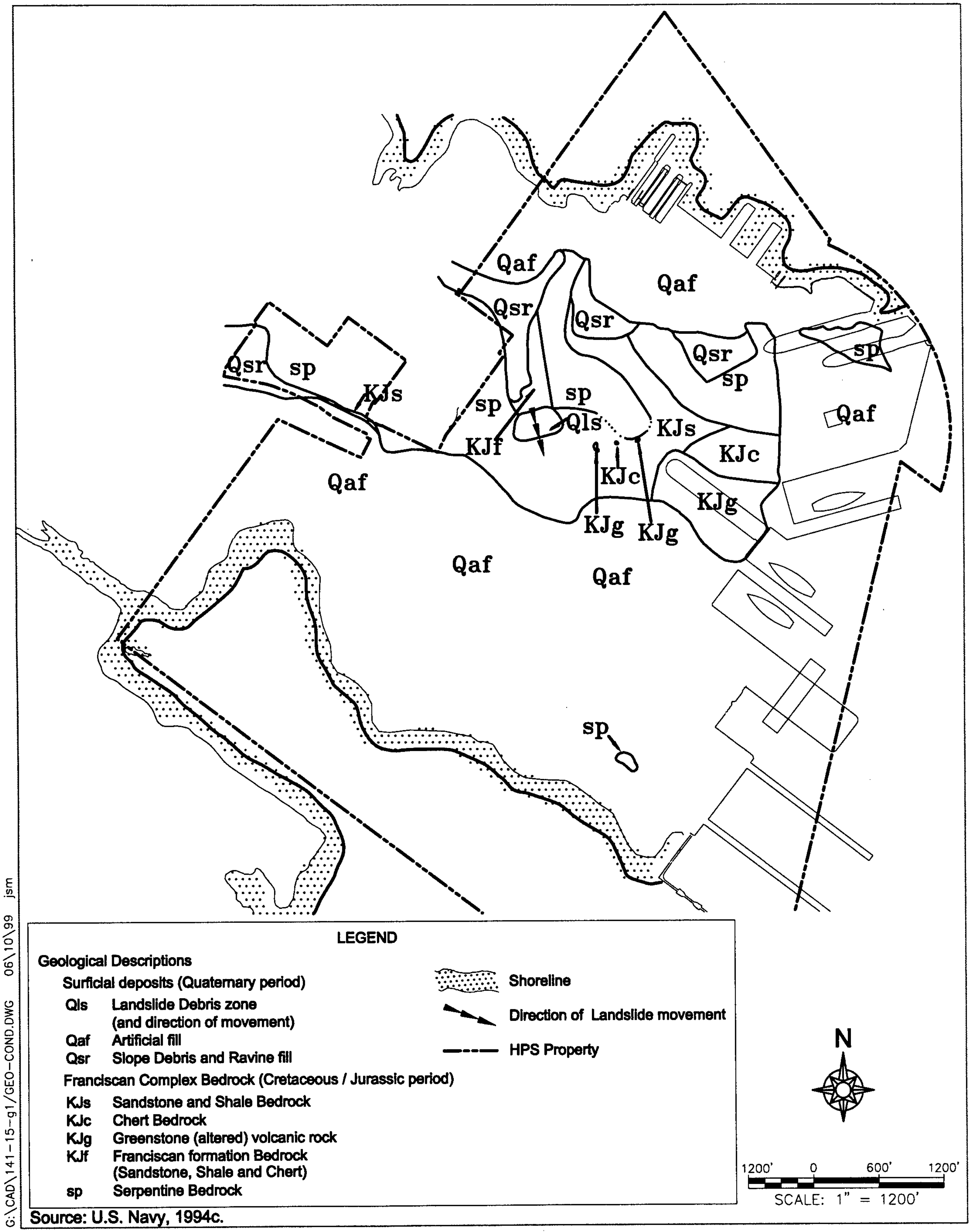


Figure 3.8-2: Regional Fault Map



G:\CAD\141-15-g1/GEO-COND.DWG 06\10\99 jsm

Figure 3.8-3: Geologic Conditions, Hunters Point Shipyard

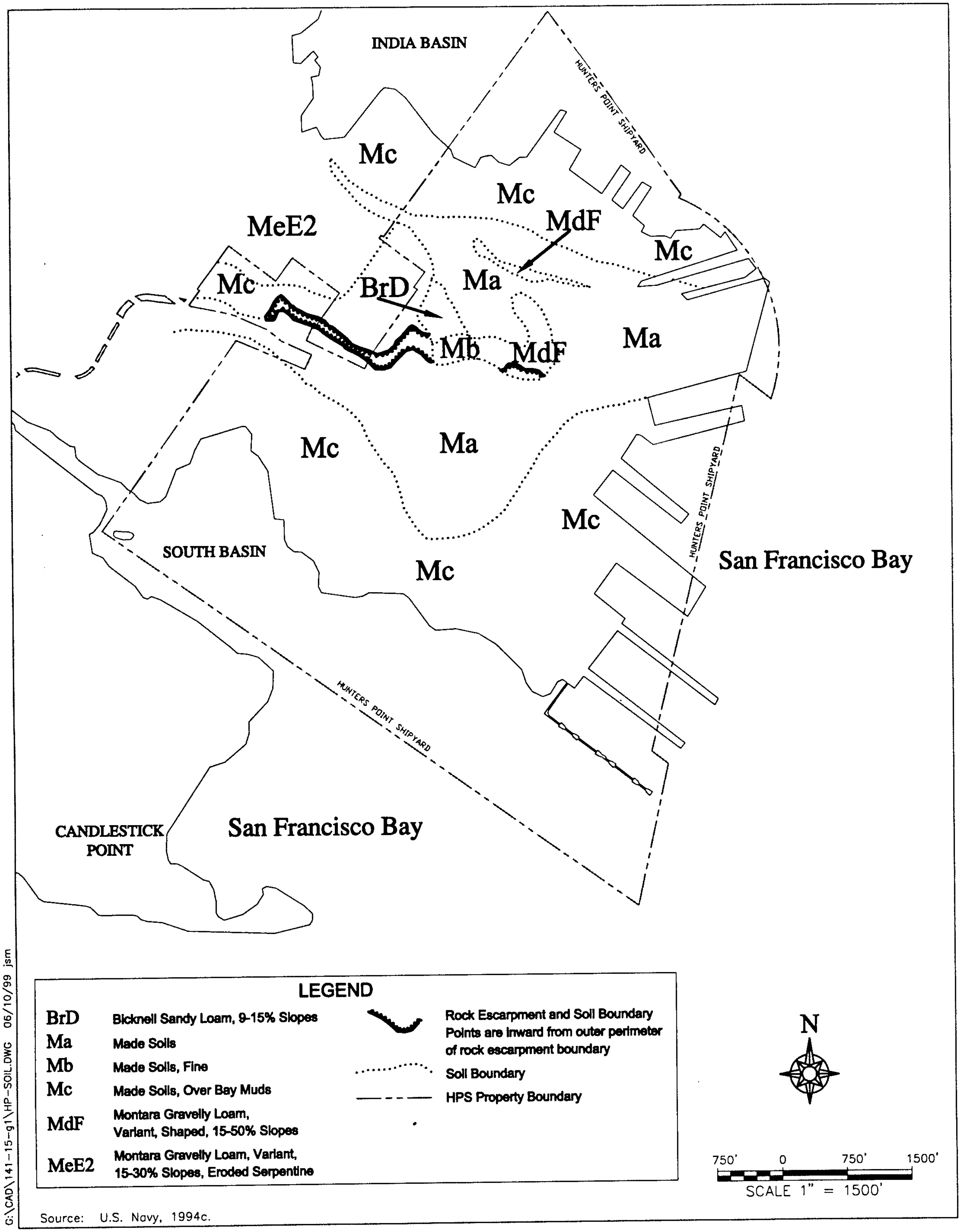


Figure 3.8-4: Soil Classification, Hunters Point Shipyard

Landsliding

The greatest potential for landsliding is on the steep slopes of Hunters Point Hill and areas underlain by weathered rocks or serpentinite (Figures 3.8-1 and 3.8-3). Landslides are most likely to occur during periods of high rainfall and runoff (such as occurred during the high wind and rain storms of the winter of 1997-1998) or during earthquakes.

The only known area of landsliding is a 13.4-acre (5.4-ha) parcel at the east end of HPS, on the hillside between Building 813 and Coleman Street (Figure 3.8-3). Investigations conducted in 1963 and 1987 indicated there was movement in these slides subsequent to hillside excavation activities in 1946. Corrective measures that have been taken to prevent further movement include flattening the hillsides and installing drains (U.S. Navy, 1994c).

Seismic Hazards

No active faults are known at HPS (U.S. Navy, 1989). Three major northwest-southeast-trending fault zones and a number of minor faults lie within 20 miles (32 km) of HPS (Figure 3.8-2). The major fault zones include the San Andreas, Hayward-Rodgers Creek, and Calaveras faults. The approximate distances from HPS to the closest portions of these fault zones are 8 miles (13 km) to the southwest for the San Andreas, 10 miles (16 km) to the northeast for the Hayward, and 20 miles (32 km) to the east for the Calaveras faults.

More than 12 large earthquakes (Richter magnitude 7 or greater) per century have occurred on the San Francisco Bay Area's major faults, and 6 large earthquakes have occurred on them since 1936. The most recent significant earthquake in the San Francisco Bay Area occurred in 1989 and was centered on the Loma Prieta Fault (part of the San Andreas Fault System) in the Santa Cruz Mountains, approximately 50 miles (80 km) southeast of the City. The Richter magnitude of the Loma Prieta earthquake was measured at 7.1.

HPS is susceptible to most earthquake-related hazards due to the nature of the materials underlying the site and its location within the seismically active San Francisco Bay Area. The hazards include ground shaking, liquefaction and densification, settling, and tsunami flooding.

Ground Shaking

The San Francisco Bay Area is expected to experience very strong to violent ground shaking during large earthquakes occurring on any of the major active fault zones within the region (U.S. Geological Survey [USGS], 1999; ABAG, 1995a). Ground shaking, and the resulting potential for damage, is considered the primary seismic hazard at HPS. The severity of ground shaking is influenced by a number of factors, including the duration and intensity of the earthquake, the proximity of the site to the location of the quake or fault, and the type of material(s) underlying the site. The Bay Mud and uncompacted fill materials that underlie much of HPS (Figure 3.8-3) can be expected to amplify and prolong the ground shaking (ABAG, 1995a). During the Loma Prieta earthquake, shifting and settling fill material caused structural damage to buried utilities throughout HPS (U.S. Navy, 1994c).

Table 3.8-1 presents estimates by the USGS (1999) of the probability of a large earthquake occurring on Bay Area faults.

TABLE 3.8-1: ESTIMATED PROBABILITY OF A LARGE* EARTHQUAKE OCCURRING IN THE BAY AREA OVER THE NEXT 30 YEARS

FAULT	PROBABILITY
San Francisco Peninsula, San Andreas Fault	21%
Hayward-Rogers Creek Fault	32%
Calaveras Fault	18%

Source: USGS, 1999.
* Richter magnitude of 6.7 or greater

Liquefaction and Densification

Secondary effects that could result from an earthquake include liquefaction and densification. These secondary effects are most pronounced in areas where relatively loose materials, especially fill, are present. These effects are important considerations at HPS, because much of the site is underlain by materials that are susceptible to these phenomena (Figure 3.8-5).

Settling

Due to the nature of fill materials at HPS, it is possible that severe ground shaking could result in different or uneven amounts of settling throughout much of HPS (U.S. Navy, 1994c). The degree of settling depends on several factors, including the nature of building improvements, foundation design differences, the thickness and compressibility of underlying fill, and variability in the thickness of the Bay Mud underlying the fill.

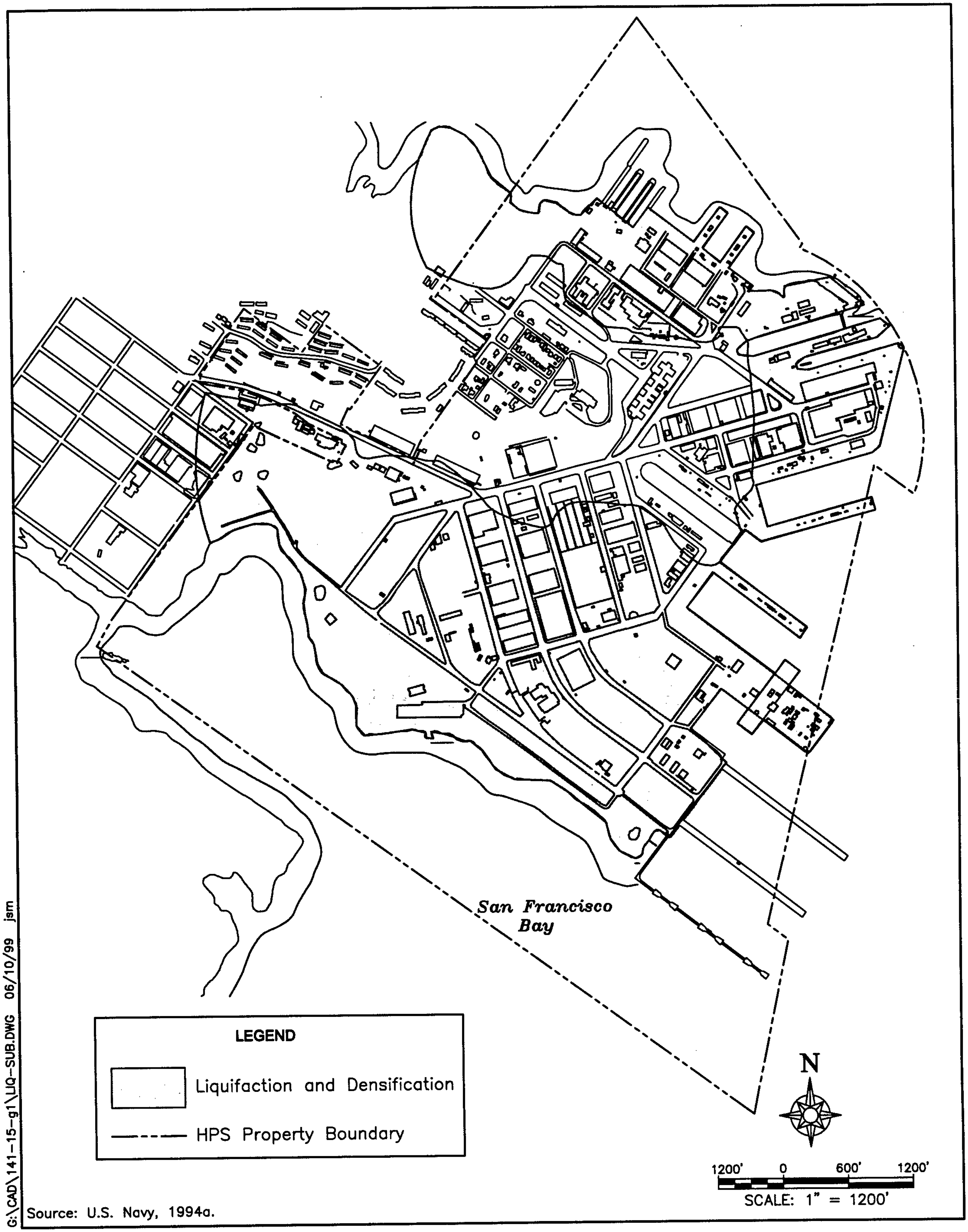


Figure 3.8-5: Areas Subject to Liquefaction and Densification, Hunters Point Shipyard

Tsunami Flooding

Given its low elevation and proximity to the Bay, HPS is potentially susceptible to flooding by seismically induced tsunamis passing through the Golden Gate inlet. Although tsunamis are generated in many areas around the Pacific Rim, only Alaska's Aleutian Trench could generate tsunamis capable of causing significant runups in Northern California (Federal Insurance Administation, 1975). The last noticeable tsunami observed within San Francisco Bay was the result of the Great Alaskan Earthquake of 1964. Significant damage along the west coast from that tsunami was restricted to Crescent City, California, located on unprotected coastline about 340 miles north of the City.

Tsunamis that enter the Bay decrease in height within the Bay. The Great Alaskan Earthquake produced a maximum recorded runup of 7.5 feet (2.3 m) at the Golden Gate Bridge (City and County of San Francisco, 1974). This compares to a 7.0 foot (2.1 m) theoretical 100-year runup (Federal Insurance Administration, 1975). However, because the Bay is highly sheltered and the entrance through the Golden Gate Bridge is oblique to waves traveling from Alaska, wave magnitudes are expected to be significantly weakened. Therefore, runup at HPS due to a major earthquake in the Aleutian Islands is expected to be minor, and this expectation is consistent with the experience from the Great Alaska Earthquake.

3.8.4 Plans and Policies

The City and County of San Francisco Community Safety Element

The City's Community Safety Element of the General Plan contains several policies relevant to structural and non-structural hazards (City and County of San Francisco, Planning Department, 1997a). The following community safety policies are applicable to HPS:

- Assure that new construction meets current structural and life safety standards (New Structures Policy 2.1).
- Review and amend all relevant public codes to incorporate the most current knowledge of structural engineering (New Structures Policy 2.2).
- Consider site soil conditions when reviewing projects in areas subject to liquefaction or slope instability (New Structures Policy 2.3).
- Assess the risks presented by other types of potentially hazardous structures and reduce the risks to the extent possible (Existing Structures Policy 2.5).

- Reduce earthquake and fire risks posed by older, small wood-frame residential buildings through easily accomplished hazard mitigation measures (Existing Structures Policy 2.6).
- Abate structural and non-structural hazards in City-owned structures (Existing Structures Policy 2.7).
- Consider information about geologic hazards whenever City decisions that will influence land use, building density, building configurations, or infrastructure are made (Planning for New Development Policy 2.9).
- Promote greater public awareness of disaster risks, personal and business risk reduction, and personal and neighborhood emergency response (Emergency Preparedness and Response Policy 3.1).
- Maintain a local organization to provide emergency services to meet the needs of San Francisco (Emergency Preparedness and Response Policy 3.3).
- Maintain a current, comprehensive Emergency Operations Plan, in compliance with applicable state and Federal regulations, to guide the response to disasters (Emergency Preparedness and Response Policy 3.4).

Hazard Area Construction Requirements

The City's Department of Building Inspection administers the San Francisco Building Code, which contains special requirements for construction in areas considered susceptible to geologic hazards, such as landslides or earthquake hazards, including liquefaction. The areas are defined based upon geologic data obtained from maps, reports, and other officially recognized sources. New construction in these designated areas, and additions or renovations of particular configurations, trigger requirements for geologic and geotechnical investigations of the construction site by a licensed engineer and, if appropriate, an engineering geologist. Recommendations for hazard mitigation must be included in the geotechnical investigation report, and such recommendations must be incorporated into the structural design of the building and site.

3.9 WATER RESOURCES

This section describes water resources and water quality at HPS, including groundwater and surface water. Surface water includes storm water runoff, groundwater seeps, and the Bay. For information on water supply, see Section 3.10, Utilities. The ROI for water resources is HPS and San Francisco Bay receiving waters.

3.9.1 Surface Water

Surface Water Occurrence

HPS borders San Francisco Bay near Yosemite and Islais Creeks, which flow into the Bay near the facility. The San Francisco Bay system, including San Pablo and Suisun Bays, covers an area of 400 square miles (1,035 km^2). San Francisco Bay receives its freshwater input from the Sacramento and San Joaquin Rivers, which contribute 680 billion cubic feet (ft^3) (19 billion m^3) of the total 750 billion ft^3 (21 billion m^3) of annual inflow. Other sources of inflow include local creeks and small rivers (U.S. Navy, 1994c).

San Francisco Bay is very shallow; most of the Bay is less than 16 feet (5 m) deep. The deepest parts are about 30 to 50 feet (9 to 15 m) deep and are in the central Bay (approximately the area of the Bay bounded by the Golden Gate Bridge, a line extending from Hunters Point to south Alameda, and the Richmond-San Rafael Bridge).

Surface water resources on HPS are limited to small groundwater seeps from exposed bedrock and the surface water in the adjacent San Francisco Bay. HPS includes approximately 443 acres (180 ha) offshore in San Francisco Bay. There are no freshwater streams or waterbodies flowing from HPS to the Bay. This portion of the Bay, however, receives combined sewage overflows (CSOs) and storm water runoff.

Beneficial Uses of San Francisco Bay

San Francisco Bay is used extensively for both recreational and commercial purposes, and the RWQCB Basin Plan identifies a number of beneficial uses of central San Francisco Bay waters. These uses include navigation, industrial service supply, fishing, estuarine habitat, preservation of rare and endangered species, fish migration, shellfish harvesting, and wildlife habitats, as well as water-contact and noncontact recreation.

At the Bay shoreline just south of HPS, the Candlestick Point State Recreation Area has facilities and access that promote extensive contact and noncontact water recreation. Windsurfing is popular at Candlestick Point, where there are two fishing piers and a beach that offers access to the Bay for swimmers. A boat launch also has been constructed in this area. In addition, the Bay shoreline supports, in places (including portions of the HPS shoreline), a fringe of wetland habitat. Clams, oysters, and other invertebrates are found in the mudflats along the shoreline. Although there is no remaining commercial Bay shellfish industry, there are minor shellfish beds at Candlestick Cove and South Basin, and clams have been collected by recreational fishermen, despite public health warnings. Bay waters provide habitat for a number of fish species and a relatively large population of waterfowl and shorebirds.

Fishing and water-contact recreation are not currently permitted at HPS.

3.9.2 Water Infrastructure

HPS Storm Water Collection System

About 90 percent of HPS is served by storm sewers that drain directly to the Bay. The remainder of HPS, consisting primarily of undeveloped shoreline areas, drains to the Bay via overland flow and throughflow.

The storm water system is described in detail in Section 3.10, Utilities. Most of the system was built between 1942 and 1946 as a combined storm sewer and sanitary sewer system. Projects to separate the two effluent components were conducted in 1958, 1973, and 1976. All known remaining interconnections between the two systems were separated under the Navy's Storm Water Program (U.S. Navy, 1998e). The original combined system was designed to carry runoff from a two-year storm event, except for isolated areas and under-designed pockets. Even with the current separated system, localized ponding occurs, and the volume of overland flow increases in larger-magnitude events. Tidal flooding of the storm drain lines occurs at high tides in low-lying areas throughout the site.

The City's preliminary assessment of the existing storm water system indicates that it does not operate to City standards and will require substantial repairs or replacement (City and County of San Francisco, Public Utilities Commission, 1998a).

City and County of San Francisco Combined Sewer System

Most of the City is served by a combined sewer system, which collects and transports both sanitary sewage and storm water runoff in the same set of pipes. Most storm water runoff in the City is diverted to the combined sewer system. The City is sub-divided into wastewater drainage basins for the combined sewer service. HPS is within the Yosemite drainage basin, and all sanitary sewage (or dry-weather flow) from HPS flows to the Yosemite basin.

The Southeast Water Pollution Control Plant (SEWPCP) treats all sanitary flow and most of the combined sewer flows on the Bayside of the City, including Yosemite basin. The plant has a capacity of 150 million gallons per day (mgd) (567 million liters per day) of secondary treatment and an additional 100 mgd (379 million liters per day) capacity for primary treatment. During dry weather, treated secondary effluent from the SEWPCP is discharged to the Bay through a deep water outfall near Pier 80. During wet-weather events, the secondary treated effluent is discharged through an outfall into Islais Creek near Third Street, and up to 100 mgd (379 million liters per day) of primary treated effluent is discharged through the deep water outfall.

During heavy rainstorms, the transport, storage, and primary and secondary treatment capacities of the combined sewer system and SEWPCP can be exceeded. When this occurs, excess combined sewage bypasses the SEWPCP and is discharged directly to the Bay through numerous CSO points along the Bay shoreline. This discharge, which is about 94 percent storm water, receives "flow-through" treatment to remove settleable solids and floatable materials (roughly equivalent to primary treatment). The combined sewer system is operated to minimize and eliminate these overflows to the extent possible. The system is designed such that on average, only one overflow event per year occurs at the Yosemite basin overflow structures.

A City-wide effort is currently underway to address the cumulative effects of increased development on the City's combined sanitary sewer and storm water system. The San Francisco Public Utilities Commission (PUC) has analyzed potential revisions to drainage patterns for the entire east side (referred to as the "Bayside") of the City (see the PUC's cumulative study, referenced as the City and County of San Francisco, Public Utilities Commission, 1998b and 1998d).

Under base case conditions, total Bayside wastewater/combined sewer flow is estimated to be about 31,113 million gallons a year (mgy) (118 billion liters a year). Total Bayside overflows are estimated at 910 mgy (3.4 billion liters per year), or about 2.9 percent of overall flows. About 5.3 million gallons (20 million liters) of these overflows are from the Yosemite system, including HPS.

3.9.3 Water Quality

San Francisco Bay Water Quality

Historically, elevated concentrations of metals have been found in San Francisco Bay waters. Most of these metal concentrations have been reduced to acceptable levels in the last 20 years by implementing measures to control the source of metals and by improving the treatment processes at wastewater treatment plants. Point sources, such as landfills and industrial discharge outlets, continue to introduce metal contaminants into San Francisco Bay.

Water pollutants enter San Francisco Bay from various sources, including municipal and industrial effluents, urban runoff, land erosion in the Bay region, major tributaries to the Bay estuary (i.e., the Sacramento and San Joaquin Rivers and their tributaries), dredging and disposal of dredged materials, atmospheric deposition, spills, and marine discharges. Some mixing of these inputs occurs through twice-daily tides. During each ebb-flood tidal cycle, ocean water replaces 10 to 30 percent or more of the Bay water. During dry weather, each tidal cycle replaces about 24 percent of the volume of the Bay with ocean water. During wet weather, freshwater inflow from the Sacramento-San Joaquin river system can increase the exchange ratio to over 80 percent in a tidal cycle. In the central Bay near HPS, there is less flushing and mixing in the summer than in the winter (San Francisco Bay-Delta Aquatic Habitat Institute, 1991). Circulation in confined areas, such as Yosemite Slough, is more restricted than in open Bay waters.

The State Water Resources Control Board (SWRCB) has listed central San Francisco Bay as impaired on the basis of field surveys of the water column, sediments, sediment toxicity, bivalve bioaccumulation, and water toxicity. This determination relates to levels of copper, mercury, selenium, diazinon, and PCBs (SWRCB, 1997; RWQCB, 1998). These constituents are discussed below.

Copper. Copper enters the Bay through municipal/industrial sources, storm water runoff (primarily through automobile brake pad dust), and other nonpoint sources (such as soils and abandoned mines). These three main copper sources contribute roughly equivalent amounts.

Mercury. The main source of mercury in the Bay is erosion and drainage from abandoned gold and mercury mines. Other sources include natural sources, atmospheric deposition, and various industrial and municipal sources.

Selenium. Selenium enters the Bay through industrial point sources (e.g., oil refineries), agricultural return flows, and natural sources. Control programs are in place to address selenium discharges from oil refineries and certain agricultural flows.

Diazinon. Diazinon enters the Bay via runoff from agriculture and, to a lesser extent, residential land uses. Diazinon is a primary component of insecticides.

PCBs. Although PCBs are no longer manufactured in the U.S., PCBs previously released to the environment enter the Bay via storm water runoff and are transported through the food chain. PCB levels in fish have resulted in health advisories for fish consumption.

A 1989-1990 study by the Institute of Marine Sciences, University of California at Santa Cruz, found that HPS met the SWRCB's Basin Plan water quality objectives. Copper values reported in samples from both HPS and mid-South Bay, however, exceeded the San Francisco RWQCB's 1992 site-specific water quality objective of 4.9 micrograms per liter ($\mu g/l$). Average concentrations of total copper at HPS stations exceeded the U.S.

EPA 1-hour average copper criterion of 2.9 $\mu g/l$ for protecting saltwater aquatic life. All trace metals, except for cobalt, tended to be highest near HPS (U.S. Navy, 1995a). According to the 1995 Regional Monitoring Program Annual Reports for San Francisco Bay, pollutants most frequently exceeding water quality objectives or criteria included copper, mercury, nickel, and PCBs (San Francisco Estuary Institute, 1995).

Near-Shore Bay Water Quality/CSO Water Quality

Direct storm water discharges enter the Bay in the near-shore tidal zone. Materials contained in storm water discharges disperse throughout the Bay according to patterns of mixing and dispersion dictated by flow volumes, tidal currents, and vertical mixing (see the Mission Bay Supplemental EIR, referenced as the City and County of San Francisco, Planning Department and San Francisco Redevelopment Agency, 1998). Pollutants end up in different places in the Bay system (e.g., shallow water, deep water, sediments), depending on their association with particulate matter, solubility, and patterns of sediment resuspension, dispersion, and resettling.

Treated CSOs enter San Francisco Bay at shoreline locations and in waterways and embayments with restricted water flow and mixing. CSOs are subject to the same processes of dispersion, partitioning, and mixing as are discharges from storm water outfalls (although CSOs are partially treated prior to discharge). Through these processes, pollutants from treated CSOs are mixed into the Bay system. The effects of storm water discharges and CSOs are reflected, along with numerous other pollutant sources, in the existing Bay water quality.

Studies have evaluated the impacts of treated CSOs from the combined sewer system on aesthetics, shellfish contamination, fish populations, benthic populations, and the bioaccumulation of potentially toxic materials in San Francisco Bay biota. Studies of dispersion and mixing have shown that treated CSOs are rapidly diluted and that oxygen concentrations are not greatly affected (City and County of San Francisco, 1979). Neither the concentrations of pollutants, nor the duration of exposure to pollutants in treated CSOs, appear to cause acute toxicity in the biota or receiving waterbodies (City and County of San Francisco, 1979). Effects of treated CSOs were evaluated with regard to the long-term bioaccumulation of pollutants in the tissues of Bay fishes and invertebrates. Where pollutant bioaccumulation was noted (City and County of San Francisco, 1979), the dynamics of the biota considered and the widespread transport of sediment-associated contaminants in San Francisco Bay made it impossible to assign a specific source to the contaminants that caused the bioaccumulation.

In the short term, treated CSOs do not affect benthic (bottom-dwelling) and aquatic populations in the near-shore Bay to a great extent, primarily because the less dense, freshwater CSOs remain on the surface of the near-shore waters and do not penetrate to the bottom. Particulate material (settleable solids) from treated CSOs may settle to the bottom in areas where there is less water movement. The high organic content of the particulate material from the treated CSOs generally leads to dense populations of pollutant-tolerant benthic organisms, relatively limited in species diversity. None of the studies that evaluated the effects of CSOs on benthic organisms found it possible to discern the direct effects of the CSOs from the overall, long-term impact of sediment deposition, resuspension, and redeposition in the Bay.

Discharge of treated CSOs can affect beneficial uses of the Bay in the project area. As part of the City's permit requirements for its wet-weather facilities, the City conducts thrice-weekly, year-round water quality monitoring. This monitoring includes standard observations (including presence of foam, floating materials, odors, and other evidence of pollutants) and tests for total coliform bacteria. The monitoring station nearest HPS is close to the Candlestick Point State Recreation Area.

Coliform test data are used as an indicator of bacteriological water quality for public health protection at beaches with water-contact recreation. Upon commencement of a CSO event, the San Francisco Health Department requires that the City immediately post warning signs at the beaches. Signs are removed when coliform concentrations are measured below the level of concern. Because water coliform tests require 48 hours for completion, beaches remain closed for an average of 3 days after a CSO. The state-recommended water-contact recreation standard for total coliform is less than 1,000 total coliform units (CFU) per 100 milliliters (ml) of water, Cal. Code Reg. tit. 17, Group 10, Article 4, §§7958-7959.

HPS Storm Water Quality

Storm water runoff from urban areas is a known source of pollutants in receiving waters. Typical sources of pollutants from parking lots include fluid leaks from vehicles, brake pad wear, tire abrasion, pavement wear, sediments, pesticides from landscaped areas, and atmospheric deposition. Types of pollutants may include oil and grease, metals, hydrocarbons, and organic pollutants, as well as sediments.

Storm water runoff from HPS has been reported to contain traces of industrial pollution (U.S. Navy, 1998e). Hydrocarbons were detected and visible sheens observed in very small storm water samples collected and analyzed in compliance with the provisions of the California General Industrial Activities Storm Water Permit (General Industrial Permit) (U.S. Navy, 1995a).

Navy has undertaken quarterly or more frequent storm water monitoring at 11 locations, as well as monitoring and inspection of 29 previously identified, potentially problematic industrial activity sites. In 1997-1998, monitoring identified occasional high levels of Total Suspended Solids (TSS), conductivity, and Total Organic Carbon (TOC) in storm water samples. In addition, high levels of zinc, copper, lead, and nickel were identified at several monitoring points. These pollutants were associated with past and ongoing industrial uses at the site, including scrap metals operations (<u>U.S. Navy, 1998f</u>).

3.9.4 Groundwater

Groundwater at HPS is present in three water-bearing zones, distinguished by depth and material composition. The three zones are as follows:

- The upper water-bearing zone (A aquifer). This zone consists of saturated sandy fill materials overlying Bay Mud, with depth to groundwater ranging from 2 to 15 feet (0.6 to 4.5 m) below ground surface.

- Undifferentiated sedimentary units of sand (B aquifer). This zone consists of gravel and silt underlying Bay Mud and overlying Franciscan <u>formation</u> bedrock.

- The bedrock water-bearing zone. This zone consists of the upper weathered and deeper fractured portions of Franciscan <u>formation</u> bedrock.

The direction and gradient of groundwater flow at HPS is complex because of the differences in subsurface fill materials, effects of the storm water drainage and sanitary sewer systems, and variations in topography. In some areas, <u>tidal fluctuations influence</u> the groundwater flow direction in the uppermost aquifer (U.S. Navy, 1998e).

The normal tidal range in the vicinity of HPS is approximately 6 feet (2 m). Water levels in monitoring wells within 400 to 800 feet (122 to 244 m) of the shoreline are directly influenced (raised and lowered) by tidal action, whereas no tidal influence is noted farther inland. Groundwater flow is generally toward the Bay; groundwater in the upper water-bearing zone can flow into the Bay, depending on groundwater elevations and tides.

Groundwater at HPS is not used for direct or indirect human consumption, such as for drinking or irrigation. Deed restrictions will prohibit the use of groundwater within the shallow water-bearing zones to 90 feet (27 m) bgs under Parcel B and on groundwater uses to 200 feet (61 m) bgs under Parcel D. Additional restrictions on groundwater use may be developed for other portions of HPS through the CERCLA process. There are no irrigation supply wells at HPS.

The nearest public or private water supply is a spring approximately 1 mile (1.6 km) northwest of HPS (upgradient). This spring flows from fractures in the Franciscan assemblage at elevations greater than 200 feet (61 m) above MSL and is used for commercial bottling water (U.S. Navy, 1998e).

Establishing background levels of metals in HPS groundwater is complicated by factors unique to HPS:

- Multiple sources of fill materials and serpentinite bedrock, yielding naturally high levels of arsenic, beryllium, cobalt, nickel, chromium, and magnesium.
- A diversity of soils with different origins, weathering states, grain sizes, and chemical, tidal, and groundwater conditions.

In addition, contamination is widespread due to past uses at HPS and in the surrounding area. These factors result in a wide range of ambient water quality readings throughout HPS.

Ambient water quality data for metals vary over a more than tenfold range from high to low, depending on location and sampling date. Ambient water quality readings for metals indicate background levels of copper, lead, mercury, nickel, silver, and zinc in excess of the National Ambient Water Quality Criteria (NAWQC) for saltwater aquatic life protection. Ambient groundwater quality was not calculated for organics, because for the purposes of remediation, it was assumed that no organics would occur naturally at HPS under ambient conditions (Tetra Tech EMI, 1998c).

Site investigations conducted through the IRP at HPS have identified elevated concentrations of metals (particularly copper and zinc) and organic compounds (petroleum-related hydrocarbons, PCBs, and solvents) in shallow groundwater samples (U.S. Navy, 1996c). These pollutants are the result of past disposal and storage of industrial materials and wastes (solvents and sandblasting grit) prior to waste storage and disposal regulations. Contaminated groundwater near the HPS shoreline has been identified at IR sites 10, 24, 26, and 46, but, based on dilution and attenuation modeling, contaminant levels in the groundwater are expected to drop below NAWQC levels at the tidally influenced zone. No contamination has yet reached the tidally influenced zone (U.S. Navy, 1998h). Groundwater contamination at IR sites 25 and 28, also near the shoreline, have not yet been addressed (U.S. Navy, 1998e). The IRP at HPS includes remedial activities to address groundwater contamination (see Section 3.7).

3.9.5 Plans and Policies

Federal and State Requirements

Water Quality Control Plan (Basin Plan)

The San Francisco RWQCB is responsible for regulating and enforcing Federal and state water quality standards in the Bay Area, including but not limited to the Bay. As part of its water quality control program, the RWQCB adopted a Basin Plan for pollutants in the Bay Area in June 1995. In addition to the Basin Plan, many other plans and policies direct RWQCB actions or clarify the regional board's intent. Plans and policies that may be applicable to HPS include the following:

- *Antidegradation Policy (Resolution 68-16):* Requires the continued maintenance of existing high quality waters.
- *Sources of Drinking Water Policy (Resolution 88-63):* Assigns municipal and domestic supply designations to all waters of the state with certain exceptions.
- *Policies and Procedures for Investigation and Remediation and Abatement of Discharges (Resolution 92-49):* Defines the goals of pollution cleanup and abatement as achieving the best quality of water that is reasonable.

National Pollutant Discharge Elimination System

In 1992, U.S. EPA and the SWRCB began implementing a comprehensive storm water permitting effort under the National Pollutant Discharge Elimination System (NPDES) permit program. This program requires permits and a storm water pollution prevention plan (SWPPP) for industrial facilities. The SWRCB has issued a statewide general industrial permit that applies to all industrial storm water discharges requiring a permit.

Navy filed a notice of intent to obtain coverage under the general industrial permit and was issued an interim permit for discharge of storm water from storm water outfalls at HPS (U.S. Navy, 1998e). As required by the general industrial permit, Navy has prepared a SWPPP for HPS (U.S. Navy, 1994c; U.S. Navy, 1995a; U.S. Navy, 1998e). The SWPPP prescribes measures to control pollutants in storm water discharges and is described below. The effectiveness of the control measures is tracked by monitoring. A pollution prevention coordinator (PPC) is responsible for implementing and monitoring the SWPPP. Among other tasks, the PPC is responsible for coordinating two dry-season inspections annually to monitor for the presence of non-storm water discharges and at least two wet-season storm water sample collections. The PPC also coordinates an annual inspection to ensure that best management practices (BMPs) are being used and to identify additional BMPs, if necessary. The SWPPP identifies measures to reduce non-storm water discharges and illicit sewage system connections to the storm water drainage system.

The City has two NPDES permits for discharges to the Bay from the City's combined sewer system: one for dry-weather discharges from the SEWPCP and another for wet-weather discharges from the SEWPCP, the Northpoint facility, and CSOs along the City's Bay waterfront, including HPS.

NPDES Permit No. CA0037664, Order No. 94-149, as amended by 96-116, governs dry-weather discharges from the SEWPCP. Discharges are regularly monitored to assure protection of Bay water quality. If necessary, pretreatment of industrial discharges may be required prior to discharge into the City's sewer system, in accordance with Chapter X of the San Francisco Municipal Code, Article 4.1 (Industrial Waste), Section 118-138. The City may revise this ordinance to include storm water provisions for discharges from various nonindustrial facilities to the combined sewer system.

NPDES Permit No. CA0038610, Order No. 95-039, governs discharges from CSOs at locations along the City's Bay waterfront, including HPS. Discharge of partially treated effluent occurs only when the storm flow exceeds the combined storage capacity of the wastewater storage/ transport facilities and the capacity of the pumping facilities to transfer flows to the treatment plants. The NPDES permit requires the treatment facilities to be designed so that CSO discharges occur, on average, once per year for the areas south of Islais Creek. This permit condition is intended to protect shellfish beds along the southeast City shoreline and other beneficial uses.

Drydock 4 at HPS is leased to Astoria Metals for dismantling ships. Astoria Metals holds an NPDES permit under San Francisco RWQCB Order 0028282 dated September 16, 1998. Navy has been named co-permittee on the new NPDES permit and is named as a secondary discharger.

HPS Storm Water Pollution Prevention Plan

In compliance with the Federal Clean Water Act (CWA), 33 U.S.C.A. §§1251-1387 (West, 1986 and Supp. 1998), Navy has prepared a SWPPP for HPS (U.S. Navy, 1996b). The goal of the SWPPP is to minimize storm water pollution, improve water quality, and comply with storm water regulations in accordance with the General Industrial Permit. The SWPPP includes BMPs to prevent or mitigate storm water pollution. These practices include those that apply to HPS generally and those that apply to certain specific industrial activities. Base-wide BMPs include good housekeeping practices, source control measures, and storm water management practices such as the following:

- Covering trash receptacles
- Preventive maintenance of machinery and vehicles
- Control of illicit discharge
- Spill and accidental discharge prevention and response
- Training
- Inspections
- Erosion and sediment control

Site-specific BMPs are recommended for 36 sites at HPS, including vehicular and equipment maintenance, storage, and cleaning sites; outdoor storage sites for hazardous materials; other waste handling sites; other outdoor storage and loading/unloading sites; and sites with contaminated or erodible surfaces. As a result of 1997-1998 storm water monitoring, recommended actions in the SWPPP for industrial activity sites included the following (U.S. Navy, 1998f).

- Review drainage areas to see if any erosion controls are needed.
- Properly store scrap metal.
- Remove sandblast grit and place drip pans beneath leaking vehicles.
- Add outfalls to the monitoring program, continue BMP inspections at Astoria Metals, and implement all BMPs.

In addition to the industrial activity sites, 77 IR sites also were evaluated for their potential to contribute to storm water pollution through infiltration of contaminated groundwater into the storm sewer system. Site-specific BMPs were not recommended for the IR sites because no specific instances of groundwater intrusion into the storm sewer system have been confirmed (U.S. Navy, 1996b).

San Francisco Reclaimed Water Use Ordinance

HPS is within the east side reclaimed water use area designated by Section 1209 of the Reclaimed Water Use Ordinance (approved November 7, 1991), which added Article 22 to Part II, Chapter X of the San Francisco Municipal Code (Public Works Code). This ordinance requires non-residential projects over 40,000 square feet that require a site permit, building permit, or other authorization, and are located within this area to provide for the construction and operation of a reclaimed water system for the transmission of reclaimed water within buildings and structures. That is, buildings must be designed with separate plumbing to service uses that could employ reclaimed water (e.g., toilets). The ordinance also requires that owners, operators, or managers of all such development projects register their projects with the Water Department. The Water Department then issues a certificate of intention to use reclaimed water, and reclaimed water must be used unless the Water Department issues a certificate exempting compliance because reclaimed water is not available, an alternative water supply is to be used, or the sponsor has shown that the use of reclaimed water is not appropriate. Additional requirements of the ordinance affect projects incorporating landscaped areas greater than 10,000 square feet. The appropriate use of reclaimed water, when it becomes available, would reduce potable water consumption in the area.

3.10 UTILITIES

This section describes the utility systems that serve HPS, including the potable water supply and distribution, nonpotable water supply, storm water collection, sanitary collection, electric, natural gas, telephone service, and solid waste disposal systems. These utility systems have deteriorated and have not received regular maintenance for at least the past five years. Therefore, the systems are in need of repair, maintenance, and upgrades (City and County of San Francisco, Public Utilities Commission, 1998a). The ROI for utilities is the South Bayshore planning area.

3.10.1 Water Systems

Potable Water Supply and Distribution System

The potable water demand for HPS is approximately 170,000 gallons per day (gpd) (643,450 liters per day) (City and County of San Francisco, Public Utilities Commission, 1998c). This demand is about 0.2 percent of the 80 mgd (303 million liters per day) used by the City.

The San Francisco Water Department (SFWD) provides potable water through two metered services, which have no backflow prevention devices. Distribution for both domestic use and fire protection is via 8- and 16-inch (20- and 40-centimeter [cm]) mains. The resulting service pressure is adequate for domestic use but not for fire protection. The main along Crisp Avenue supplies most potable water at HPS, including the needs of ships berthed at piers, wharves, or in drydock. The 8-inch (20-cm) main along Jerrold Avenue supplies the former housing area and administrative buildings.

Much of the potable water system piping is approximately 55 years old and was installed when HPS was constructed in the early 1940s. Some sections have been replaced with polyvinyl chloride lines (City and County of San Francisco, Public Utilities Commission, 1998a). Testing shows most of the piping to be in good condition, with some piping in the waterfront area in fair to poor condition due to external corrosion (U.S. Navy, 1998e). The upper housing area's water distribution system has been abandoned, although a 410,000-gallon (1.5-million liter) tank remains connected to it. The valves that were used to isolate this tank do not hold, and leakage has continued to fill it. In addition, a main service vault on the line is in a building that was purchased by a private firm, and Navy has not maintained the system or valves in recent years. The last major break required shutting down most of the system for repair. Isolation valves could neither be located nor closed (City and County of San Francisco, Public Utilities Commission, 1998a).

High levels of lead, trihalomethanes, and oil and grease were measured in the tap water of Building 606, occupied by SFPD (City and County of San Francisco, Public Utilities Commission, 1998a). Although sources have not been determined, the high lead concentration may be attributable to lead solder in pipes, and trihalomethanes may be from the water treatment process. Oil and grease in tap water may be introduced into the distribution system during modifications to pipes (U.S. Navy, 1998g; Tetra Tech EMI, 1998a).

Navy performed several computerized flow analyses and field flow tests on the potable water distribution system. These analyses show that the distribution system has insufficient water pressure for fire-fighting requirements in the Parcel A area served by the Jerrold Avenue water main (U.S. Navy, 1998e). In addition, the fire hydrants at HPS conform to Navy standards but do not match the size of San Francisco Fire Department's hydrant connection hoses.

Nonpotable Water Supply Systems

Navy used saltwater at HPS for fire protection and cooling and for flushing ships' systems. There are three saltwater systems: a low-pressure system that serves portions of the waterfront and the HPS industrial area, an old (1940s) high-pressure system, and a newer (1986) high-pressure system. The low-pressure system is inoperable. The old and new high-pressure systems serve Drydock 4 and the North and South Piers. Navy has not used the saltwater systems since 1991 (U.S. Navy, 1998e).

3.10.2 Storm Water Collection System

Storm water at HPS flows into the Bay from the highlands to the surrounding lowlands and from the lowlands themselves. About 10 percent of HPS, primarily along the undeveloped shoreline, does not have storm drains (U.S. Navy, 1998e). These areas drain through overland flows to the Bay.

The storm collection system includes 107,000 linear feet (32,614 m) of lines (2- to 54-inch [5- to 137-cm] diameter), 624 catch basins, 321 manholes, and 37 outfalls (6- to 72-inch [15- to 183-cm] diameter). The pipelines are made of concrete and vitrified clay (U.S. Navy, 1998e).

Navy built most of the system from 1942 to 1946 as a combined sanitary and storm sewer system. Navy performed projects to separate the sanitary and storm drainage systems in 1958, 1973, and 1976. Navy separated the remaining known cross connections between the two systems under Navy's Storm Water Program (U.S. Navy, 1998e).

The combined system was designed for a two-year storm event (not the City's standard of a five-year event), with the exception of some isolated and under-designed pockets. During larger magnitude storms, ponding occurs, and the volume of overland flows increases. Tidewater flooding of the storm drain lines occurs in low-lying areas throughout the site. Localized flooding and backing of Bay water into the system occurs with some frequency (see Section 3.9, Water Resources).

In 1994, Navy cleaned storm drains and catch basins in Parcel A. In 1997, they cleaned drains and basins in the other HPS parcels. About 90 percent of the storm lines at HPS were surveyed and cleaned. Navy did not clean lines located beneath the groundwater table in Parcels B, C, and E because they are close to the shoreline, and cleaning could cause excessive groundwater infiltration and/or tidal influence (Tetra Tech EMI, 1998a). Some outfalls could not be located and therefore were not cleaned. There may be separator or settling vaults at the outfalls that also have not been located, inspected, or cleaned (City and County of San Francisco, Public Utilities Commission, 1998a).

The City's preliminary assessment of the storm drain system indicates that it does not meet City standards (City and County of San Francisco, Public Utilities Commission, 1998a).

Almost all of HPS is subject to the statewide NPDES Industrial Activities Storm Water General Permit. Astoria Metals Corporation has an individual NPDES permit to operate Drydock 4.

3.10.3 Sanitary Collection System

The gravity sanitary sewer system at HPS was originally part of a combined sanitary and storm water drainage system installed in the 1940s that was later separated (U.S. Navy, 1998e). The sanitary system consists of cast-iron, concrete, and vitrified clay sewers (4- to 33-inch [10- to 84-cm] diameter), with a total linear length of approximately 67,000 feet (20,422 m). There are eight pump stations, of which two are significant to system operation. The sewer system pipelines go to HPS Pump Station A (Building 819/823), which is capable of pumping up to 2 mgd (7.6 million liters per day). From the pump station, wastewater goes to the City's sewage treatment system at Griffith Street and then flows to the SEWPCP on Jerrold Avenue between Phelps and Quint Streets.

Daily wastewater discharges at HPS contribute approximately 245,000 to 300,000 gpd (927,325 to 1,135,500 liters per day) or 1 percent of average sewer gravity flow recorded at the SEWPCP. Table 3.10-1 presents the estimated daily treatment capacities of the SEWPCP during wet and dry weather and the average daily contribution of HPS to the total flow.

TABLE 3.10-1:
SEWPCP TREATMENT CAPACITIES AND FLOWS

CAPACITY AND FLOW	VOLUME
Peak Capacity, Dry Weather	150 mgd
Peak Capacity, Wet Weather	210 mgd
Total Average Dry-Weather Flow	65-70 mgd
Total Average Wet-Weather Flow	150-250 mgd
Daily Contribution of HPS to SEWPCP	245,000-300,000 gpd

Source: City and County of San Francisco, 1996 and City and County of San Francisco, Public Utilities Commission, 1997.

The last engineering study of the HPS sanitary collection system was conducted in 1988, when deficiencies were noted in the system's physical condition and hydraulic layout. Navy classified the collection system as poor due to sags and dips, leaky and broken joints and pipes, eroded pipe bottoms, infiltration, damaged manholes, debris and silt deposits, and construction deficiencies. These factors cause continual blockages and plugging. The aging system has had poor maintenance and is subject to low flow (less than 2 feet per second [0.6 m per second]) and subsiding soil (City and County of San Francisco, Public Utilities Commission, 1998a).

In 1988, infiltration was measured at 160,000 gpd (605,600 liters per day) during dry weather and 1,760,000 gpd (6,661,600 liters per day) during wet weather (City and County of San Francisco, Public Utilities Commission, 1998a). _RI reports prepared by Navy show that this over ten-fold increase in flow quantities is probably due to leakage in the sewer system, causing groundwater infiltration (Tetra Tech EMI, 1998b). The PUC, however, believes that the increased flows may be caused by cross connections between the storm and sanitary sewers that still exist (City and County of San Francisco, Public Utilities Commission, 1998a).

3.10.4 Electric and Natural Gas Systems

Electric System

PG&E provides electric service to HPS customers via overhead distribution lines to service meters. Six underground service lines have incorporated existing Navy cables and ducts to remote customers. The condition of these underground lines is unknown. Navy has abandoned equipment and devices from the old system and in buildings (City and County of San Francisco, Public Utilities Commission, 1998a). The current electrical demand at HPS averages 9.6 million kilowatt-hours (kWh) per year. The street lighting system throughout HPS has been abandoned, although some of the lights might be salvageable.

Natural Gas System

PG&E provides natural gas service to Navy tenants and bills customers directly. The original HPS natural gas distribution system was extensively damaged in the 1989 earthquake and was abandoned; it is not salvageable (City and County of San Francisco, Public Utilities Commission, 1998a). Gas distribution lines are in place along Crisp, Fisher, Galvez, Hudson, Innes, and Spear Avenues and Donahue, Lockwood, and Robinson Streets.

3.10.5 Telephone Service

Pacific Bell provides telephone service to Building 813, where the line is trunked out to other buildings at HPS via overhead and underground lines. New phone line installations for HPS tenants are installed at the tenant's expense (U.S. Navy, 1996h).

3.10.6 Solid Waste Disposal

A commercial solid waste company, Sunset Scavenger, collects solid waste at HPS under contract to the City. The waste is hauled to the Altamont Landfill near Livermore, California. Solid waste generated at HPS amounts to approximately 24 tons (22 metric tons) annually (U.S. Navy, 1994a). In 1996, the City generated 1,115,700 tons (1,012,386 metric tons) of solid waste (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1998); approximately 35 percent of the waste was recycled. The solid waste generated by HPS contributed less than one percent of the City's 1996 solid waste generation total. Using the 1996 diversion rate of 35 percent, HPS is estimated to contribute about 16 tons (14.5 metric tons) of waste to the landfill and 8 tons (7 metric tons) for recycling annually.

In 1996, approximately 745,000 tons (676,013 metric tons) of City solid waste was disposed of in the Altamont Landfill. The Altamont Landfill has a total planned capacity of approximately 67 million tons (60.8 million metric tons), of which 35.7 million tons (32.4 million metric tons) is permitted (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1998).

3.10.7 Plans and Policies

Potable Water Distribution System

Sampling requirements for lead and copper in drinking water are outlined in the Safe Drinking Water Act (SDWA) of 1974, 42 U.S.C.A. §§ 300f to 300j-26 (West, 1991 and Supp. 1998). The U.S. EPA has regulatory authority over public drinking water systems.

Nonpotable Water Supply System

The SFWD is working on a groundwater master plan that will describe existing groundwater resources within the City, including HPS, and will identify potential uses.

Since 1989, the PUC and the SFWD have been evaluating the potential uses of reclaimed water. The revised Draft Water Recycling Master Plan, Apparent Best Alternative, identifies commercial development of HPS as a potential user of reclaimed water for industrial purposes (City and County of San Francisco, 1995).

Storm Water Collection System

Almost all of HPS is subject to the statewide NPDES Industrial Activities Storm Water General Permit. Astoria Metals Corporation has an individual NPDES permit to operate Drydock 4.

Sanitary Collection System

The main regulatory laws that govern wastewater discharges at HPS are the CWA, 33 U.S.C.A. §§ 1251-1387 (West, 1986 and Supp. 1998), and the state Porter-Cologne Water Quality Control Act, California Water Code (Cal. Water Code) §§ 13000-14958 (West, 1992 and Supp. 1999). The San Francisco RWQCB has permitting authority over the HPS system.

Solid Waste Management

The Solid Waste Disposal Act (SWDA) of 1965, 42 U.S.C.A. §§ 6901-6992k, as amended by RCRA, 42 U.S.C.A. §§ 6901-6992k (West, 1995 and Supp. 1998), requires that Federal facilities comply with all Federal, state, interstate, and local requirements regarding the disposal and management of solid waste. The California Integrated Waste Management Act, California Public Resources Code (Cal. Pub. Res. Code) §§ 40000-40713 (West, 1996 and Supp. 1999), requires California counties to divert 25 percent of their solid waste from landfills by 1995 and 50 percent by 2000. Cal. Pub. Res. Code §§ 42000-42023 established state programs designed to increase recycling and to encourage developing commercial markets for recyclable materials. In general, the state places the burden of action and responsibility for meeting state requirements on the county.

3.11 PUBLIC SERVICES

This section describes police, fire protection, and emergency medical services at HPS and for the City, which will provide these services following property transfer. The ROI for public services is HPS and the City.

3.11.1 Police Services

Navy has exclusive responsibility for law enforcement at HPS except on Parcels A and E, where jurisdiction is proprietary (state regulators are allowed to enforce state law). The HPS police department employs 18 officers who provide law enforcement and security services to HPS. The department does not have a mutual aid agreement with the SFPD.

The SFPD employs a total of 2,043 officers that staff 10 district stations (SFPD, 1996). The station closest to HPS is the Bayview Station at 201 Williams Street. This station has a staff of 87 officers, and its service area extends from the China Basin Channel south to the City and County line (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1998).

Building 606 and a lot adjacent to the building are leased to the San Francisco Redevelopment Agency for use by SFPD special operations, which includes the Special Weapons and Tactics (SWAT) division (U.S. Navy, 1998i). SFPD will use the lot for a helicopter landing pad.

3.11.2 Fire Protection and Emergency Medical Services

The HPS fire department in Building 215 provides fire prevention, fire suppression, and emergency medical services at HPS. The department employs 11 fire suppression personnel that are also trained as emergency medical technicians (U.S. Navy, 1998j). Ambulance service required for medical emergencies is provided by paramedics at San Francisco General Hospital. The department has a mutual aid agreement with the San Francisco Fire Department (SFFD).

The SFFD employs approximately 1,500 uniformed and 90 civilian personnel (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1998). When an emergency call is received, the closest station is designated the first responder. If the closest station is unable to respond, then the next closest station is called. The SFFD has three stations that can respond to calls from HPS: No. 9 on Gerald Street, No. 17 on Shafter Avenue, and No. 25 on Third Street at Islais Street (U.S. Navy, 1995e).

3.11.3 Plans and Policies

The following Community Safety policies are applicable to HPS under the City's General Plan (City and County of San Francisco, Planning Department, 1997a):

- Improve the coordination of City programs that mitigate physical hazards, help individuals and organizations prepare for and respond to disasters, and recover from the impacts of disasters (Objective 1).
- Ensure the protection of life and property from disasters through effective emergency response. Provide public education and training about earthquakes and other natural disasters and how individuals, businesses, and communities can reduce the impacts of disasters (Objective 3).

3.12 CULTURAL RESOURCES

This section presents archeological and historical background information pertinent to HPS. Brief summaries of the studies conducted by Navy to evaluate the ethnographic, archeological, and historical conditions at HPS are presented. The ROI for cultural resources is HPS.

The term "cultural resources" encompasses any object, site, area, building, structure, or place that is archeologically or historically important, or that possesses traditional cultural value (such as sites sacred to indigenous peoples or other ethnic groups). This definition includes assets considered important in the architectural, scientific, engineering, economic, agricultural, educational, social, political, military, or cultural history of California. "Prehistoric" refers to the cultural past before the advent of written records and, therefore, includes the archeological record of pre-literate cultures. For purposes of this analysis, a cultural resource is considered worthy of preservation if it meets the criteria for listing in the National Register of Historic Places (NRHP) .

3.12.1 Background

Hunters Point is a small promontory near the southeastern corner of the City, along San Francisco Bay just north of Candlestick Point. The point was named after Robert and Philip Hunter, pioneer settlers in San Francisco in the period after the United States' acquisition of California.

Ethnography

Before the arrival of Europeans in California, the Hunters Point area was inhabited primarily by a Penutian-speaking indigenous group whose territory included the areas now known as the San Francisco Peninsula, portions of the Marin County Peninsula, western Contra Costa County, and Alameda and Santa Clara Counties. Spanish explorers gave the name "Costanoan" to this group, meaning "People of the Coast." Modern studies typically refer to this group as the Ohlone, which is the name preferred by the group's descendants today (U.S. Navy, 1998b).

Estimates of the Ohlone population in the Bay Area at the time of European arrival in the 1770s range from 7,000 to over 10,000. From the late 1770s to the early 1800s, the native populace was forced to abandon their villages and to integrate themselves into the Spanish mission system. By 1810, there were no longer any indigenous peoples following their traditional manner of life in the Bay Area. The number of Ohlone in the area is estimated to have fallen below 2,000 by the early 1830s, reflecting both the destruction of their way of life and the impact of diseases introduced by Europeans. Subsequent events, such as changes in the mission system in the 1820s and the boom of the Euroamerican population following the California Gold Rush in 1848, led to further declines in the Ohlone population. In 1973, the number of Ohlone descendants was estimated at slightly over 200 (U.S. Navy, 1998b).

Prehistory

Based on archeological research conducted over the last 50 years, San Francisco Bay Area human occupation could extend as far back as 8,000 B.C. (U.S. Navy, 1998b). Although the Bay Area was relatively densely populated by indigenous peoples as late as the 1770s, the following decades witnessed disruption of their traditional way of life and a drastic decline in their population, owing to the effects of European conquest, disease, and the forced "missionization" of the native population by Spanish colonizers. Much of the Bay Area's prehistoric record has been lost because archeological sites were destroyed early on as a result of development pressure, relic collection, and non-existent or inadequate legislation to protect them.

History

The Hunters Point area was originally part of the Rincon la Salinas Y Potrero Viejo Mexican-era land grant. The property was first used as a drydock in 1867, under the auspices of the California Dry Dock Company, which built Drydock 1. Between 1901 and 1903, the San Francisco Dry Dock Company, successor to the California Dry Dock Company, built Drydock 2, just south of the original structure. After Drydock 2 was completed, the Hunters Point private drydocks began to service Navy ships. After 1916, Navy began to subsidize the owners of the Hunters Point facility to construct larger and more efficient repair facilities to service Navy vessels (U.S. Navy, 1998b).

From 1908 to 1939, the property grew into a major shipbuilding facility. It was acquired by Union Iron Works, which was owned by Bethlehem Steel. Drydock 3 was built with Navy subsidies and used for battleship repairs. Drydock 3, which was designed to accommodate the largest vessels that could pass through the Panama Canal, was built at the site of Drydock 1, which was replaced by the new structure.

Increasing business at the shipyard spurred growth in the area's economy. During this period, several dozen small homes were built by private parties on the hillside at the northern edge of what is now HPS. At the same time, two commercial enterprises were built in the same general neighborhood. One of these, Dago Mary's restaurant, still operates today.

Navy began efforts to acquire the shipyard in 1939. By 1942, after the United States entered World War II, Navy had undertaken a massive construction program at HPS. Drydock 4 was constructed in 1943. The Navy shipyard remained in service until 1974, and, when required, Navy has operated Drydock 4 since that time.

3.12.2 Cultural Resource Studies

Archeological Studies at HPS

Navy completed an archeological inventory and assessment of HPS in February 1998 (U.S. Navy, 1998b). The purpose of the assessment was to identify and evaluate historic resources within HPS that would qualify for listing on the NRHP. This study revealed that between 1906 and 1908, Nels C. Nelson discovered eight prehistoric shellmounds in the general vicinity of Hunters Point and Islais Creek (Nelson, 1909). Four of the eight shellmounds, CA-SFr-11, -12, -13, -14, were identified within HPS boundaries (U.S. Navy, 1998b).

Historical and Architectural Studies at HPS

Navy conducted two evaluations of historic properties at HPS: *Historical Overview of Hunters Point Annex, Treasure Island Naval Base and Description of Properties that Appear Eligible for Listing in the National Register of Historic Places* (U.S. Navy, 1988b) and *Historic Context and Inventory and Evaluation of Buildings and Structures, Hunters Point Shipyard* (U.S. Navy, 1997e). The results of the latter study are discussed below.

3.12.3 Prehistoric Resources and Archeological Sites

The precise locations of four shellmound sites recorded by Nelson (CA-SFr-11, -12, -13, -14) can only be estimated from the portion of his notebooks and sketches that have survived. Based on the information available and the subsequent historical record of earth-moving and construction activities at HPS, it seems reasonable to assume that all evidence of site CA-SFr-13 was destroyed by the extensive excavations involved in constructing Drydock 4. It is possible that intact portions of the three other sites (CA-SFr-11, -12, -14) may still exist beneath 20 feet (6 m) (or more) of fill. The presumed location of CA-SFr-11 is immediately adjacent to the HPS property and therefore may have experienced less impact from construction of the shipyard than the other sites. It is possible that sites CA-SFr-12 and -14, if they survived Chinese and Euroamerican historic-era occupation and subsequent shipyard construction, are deeply buried under fill.

Navy's archeological inventory and assessment (U.S. Navy, 1998b) identified three (non-contiguous) subsurface zones of potential archeological interest for historic-era findings:

- Zone 2: May contain historical features dating from 1852 to 1903.
- Zone 3: May contain remnants of Chinese shrimp-fishing encampments.
- Zone 4: May contain historic maritime resources.

(Zone 1 refers to the locations of the four prehistoric shellmound sites discussed above.)

Based on analysis of maps dating from 1852 to 1903, Zone 2 may contain remnants of historic-era structures. No foundation remnants of these structures remain on the surface in these areas. However, there may be remains of the former boarding houses, saloons, dumps, domestic dwellings, cisterns and wells, latrines, sheds, restaurants, and detached kitchens under the fill used to create HPS. Such remains would be regarded as extremely important for social, economic, and dietary aspects of the lives of early settlers and maritime workers (U.S. Navy, 1998b).

Zone 3 identifies the sites of possible remains of Chinese shrimp-fishing camps present in the area from the early 1870s to the early 1940s. Historical maps and archival information indicate that, of the many camps in the area during this period, only five were within the present HPS site. It is possible that remnants of drying grounds, processing areas, wharves, living quarters, and storage areas may be present beneath the fill used to create the land base on which HPS was built. Remnants of these Chinese shrimp-fishing camps are considered potentially important archeological resources.

Zone 4 pertains to remains of maritime activities from the years between 1835 and 1939. This includes not only a ship graveyard and the sites of several shipwrecks, but also remnants of wharves, docks, sea walls, and vessels that may be present beneath fill or below HPS waters. Remains could provide significant information for studies of maritime resources and ship-building technology.

In addition to these four subsurface areas of potential archeological interest, there are five shipwrecks that are known to have occurred in waters in or around the current HPS territory between 1878 and 1947. The exact location and potential historical archeological significance, if any, of these shipwrecks has not been determined (U.S. Navy, 1998b).

Four zones of archeological sensitivity have been identified within the margins of the original HPS shoreline. Historical research indicates that there is some potential for both prehistoric and historic archeology within the four identified zones; however, an archeological study confirmed that there is no physical evidence of these resources on the ground surface. If they exist at all, they would be deeply buried by the fill used to construct HPS.

3.12.4 Historic Resources and Sites

Following is a brief discussion of HPS historic resources from each historic era (U.S. Navy, 1997e).

Property Types from the Early Commercial Shipyard, Pre-1908

The Hunters Point Commercial Drydock Historic District includes structures from the period before 1908, as well as buildings and structures from the later period between 1908 and 1939. Figure 3.12-1 identifies the boundaries of this historic district and its contributing buildings.

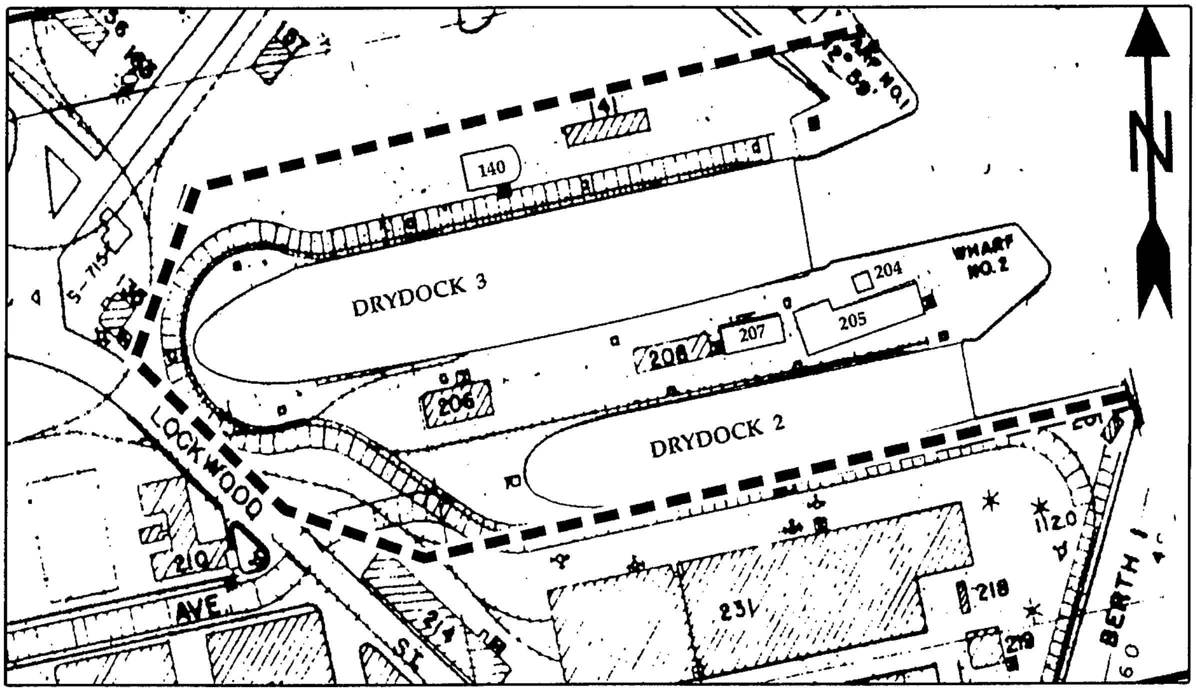
The Hunters Point Commercial Drydock Historic District is eligible for listing in the NRHP. The early buildings and structures, particularly Drydocks 2 and 3 and Buildings 204 and 205, are largely intact. The drydocks are no longer operable; with their caissons removed, the drydocks are now essentially berths. Buildings 204 and 205 have been boarded over to prevent vandalism, but most of the window frames appear to be intact. The buildings are significant, not only for their association with the site's history, but also for their design. These rectangular brick buildings are designed as if they were small Classical temples, with pedimented roof forms and arched window and door openings. The seawall and wharves associated with these docks have deteriorated and no longer retain their integrity. There are no visible remnants of Drydock 1 at the site, although some remains may be buried beneath the fill.

Mature Commercial Ship Repair at HPS, 1908-1939

Three types of buildings and structures remain from this period: drydocks and related buildings at the waterfront, single-family housing units on the hillside, and two commercial buildings built by private parties. The most substantial remnants from this period are at the historic drydock area and comprise the remaining buildings within the historic district that were built after 1908. These include Drydock 3, built between 1916 and 1918, the pumphouse for Drydock 3 (Building 140), and the Paint and Tool Building (Building 207).

The 1908-1939 buildings along the waterfront are generally consistent with pre-1908 construction there, matching the earlier buildings in materials and architectural detail. The 1908-1939 drydock-related buildings and structures are treated as contributing elements of the historic district.

Single family residences and commercial buildings make up the remaining structures at HPS from this era. By letter of May 29, 1998, the California State Historic Preservation Officer (SHPO) concurred with Navy's determination that they do not meet the criteria for listing in the NRHP (SHPO, 1998).



LEGEND

Hunters Point Commercial Drydock Historic District Boundary

Contributing Structures

Source: City and County of San Francisco, 1993b.

P:\141-15 / jan00fig/ \DDHISTORIC.FH8 01/31/00 dyu

Figure 3.12-1: Hunters Point Commercial Drydock Historic District

Naval Shipyard Hunters Point During World War II, 1939-1945

The World War II-era buildings and structures at HPS fall into 10 property types: shops and warehouses; barracks; administrative buildings; social welfare buildings; single-family residences; toilets; drydocks; cafeterias; utility buildings (substations and pumphouses); and miscellaneous other buildings. It appears that nearly all of the buildings and structures at HPS were built from Bureau of Yards and Docks standardized plans. The only structure from the World War II era identified as historically significant and eligible for inclusion on the NRHP is Drydock 4, built in 1943. This drydock is 1,092 feet (332 m) long, 143 feet (44 m) wide, and 53 feet (16 m) deep. Drydock 4 retains a high degree of integrity. It is functional and is currently being leased and operated for ship salvage.

Naval Shipyard at Hunters Point, Post-1945

Construction at the shipyard continued until 1948. After 1948, relatively few buildings were constructed with any direct association with the shipyard function.

During the immediate post-war period, the shipyards were filled out with buildings that had been planned during the war but not completed before the war's end in 1945. Structurally, these buildings fall into two property types: (1) buildings constructed along the lines of wartime plans, and (2) buildings that did not follow wartime plans. The shipyard includes a few buildings that were built between 1945 and 1947 that are identical to their counterparts from between 1942 and 1945. More commonly, the immediate post-war buildings were "pre-engineered" (Butler type) buildings, a trend that persisted through the 1970s. Even the large shipyard buildings from the 1970s are pre-engineered structures.

Post-World War II-era structures at HPS fall into the following four property types: big shipyard buildings, metal-sided Butler Buildings, other building types continuing the World War II-era construction program, and miscellaneous buildings from 1947, including the 450-ton (408-metric ton) Bridge Crane.

None of the buildings and structures constructed at HPS from the Post-War era to the present qualify for listing on the NRHP (U.S. Navy, 1997e). By letter of May 29, 1998, the SHPO concurred in this determination (SHPO, 1998).

3.12.5 Significant Historic Architectural Resources

In May 1998, the SHPO concurred with Navy's determination that one HPS structure, Drydock 4, is individually eligible for inclusion on the NRHP (SHPO, 1998) (Figure 3.12-2). The SHPO further concurred with Navy's determination that six other structures are eligible for inclusion on the NRHP as contributors to the Hunters Point

Commercial Drydock Historic District, as shown on Figures 3.12-3, 3.12-4, and 3.12-5 (SHPO, 1998):

- Drydock 2
- Drydock 3
- Gatehouse (Building 204)
- Pumphouse 2 (Building 205)
- Pumphouse 3 (Building 140)
- Tool and Paint Building/Toilet (Building 207)

The SHPO also concurred that the following structures within the boundaries of the Hunters Point Commercial Drydock Historic District are not eligible for inclusion on the NRHP and therefore are non-contributors to the historic district (SHPO, 1998):

- Tool Room and Shop Service Building (Building 208)
- Shop Building (Building 141)
- Seawall and wharves
- Remnants of Drydock 1

Navy concluded that Dago Mary's restaurant does not appear to qualify for listing on the NRHP because it lacks significance in terms of its place in community development and its design (U.S. Navy, 1997e). Navy also concluded that the 450-ton (408-metric ton) Bridge Crane does not meet the criteria for listing on the NRHP because, in about 1970, the traveling cranes were removed, leaving only the basic bridge structure, which has been modified since that time. The SHPO concurred with Navy's determination for these two properties and concluded that there are no other properties outside the boundaries of the historic district and Drydock 4 that qualify for inclusion on the NRHP (SHPO, 1998).

At the time that Navy was directed to close and dispose of Mare Island Naval Shipyard (Vallejo, California) in 1993, that shipyard operated Drydock 4 at HPS. Operation of Drydock 4 ceased immediately, and plans were made to layaway the drydock. However, the layaway cost could not be justified for a facility that Navy had been directed to close and convey from Federal jurisdiction. At that time, Navy requested comments of the Advisory Council on Historic Preservation (ACHP) pursuant to Section 106 of the NHPA, because Drydock 4 had been determined eligible for listing on the National Register. In accordance with the regulations (36 Code of Federal Resources [C.F.R.] Part 800 [1998]) implementing Section 106, a Memorandum of Agreement (MOA) was developed by Navy in consultation with the SHPO and was accepted by the ACHP in August 1994. That MOA accepted the loss of Drydock 4, with Navy agreeing to attempt to lease the facility for the short term and to record the structure for inclusion

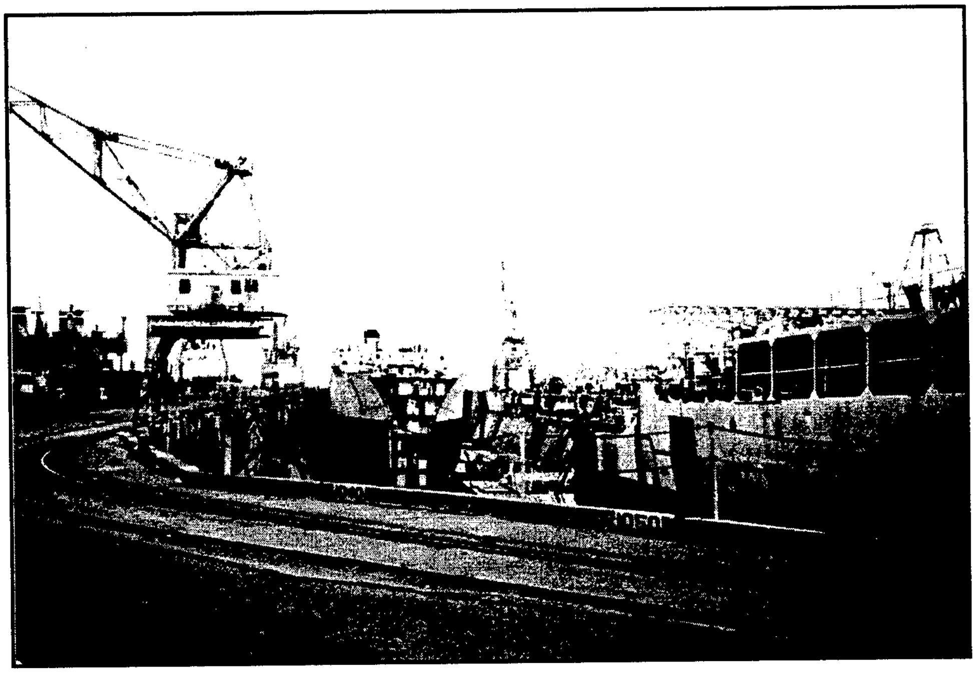
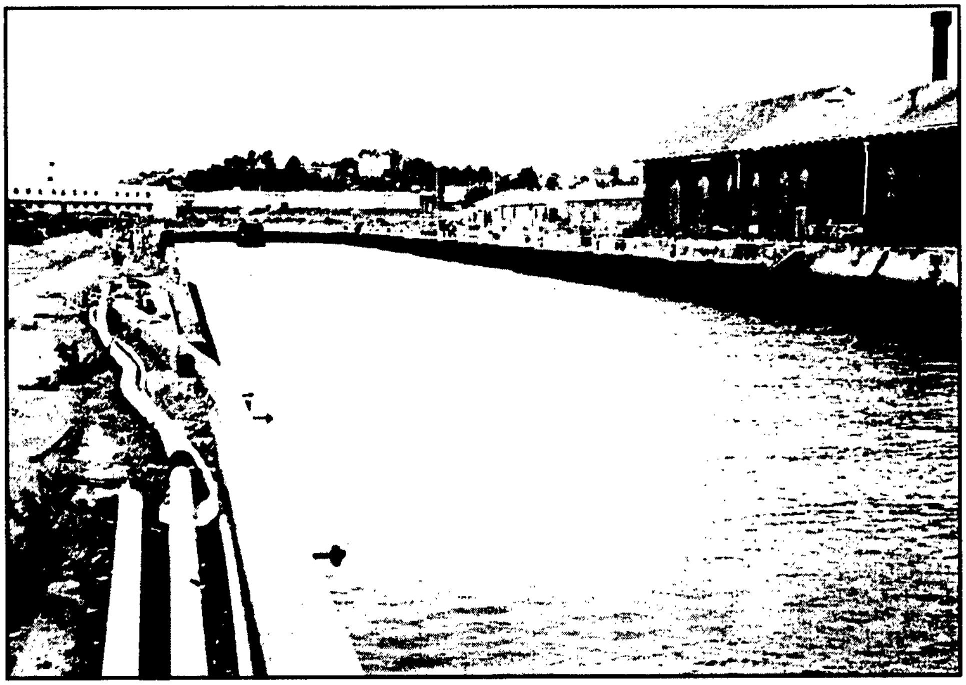
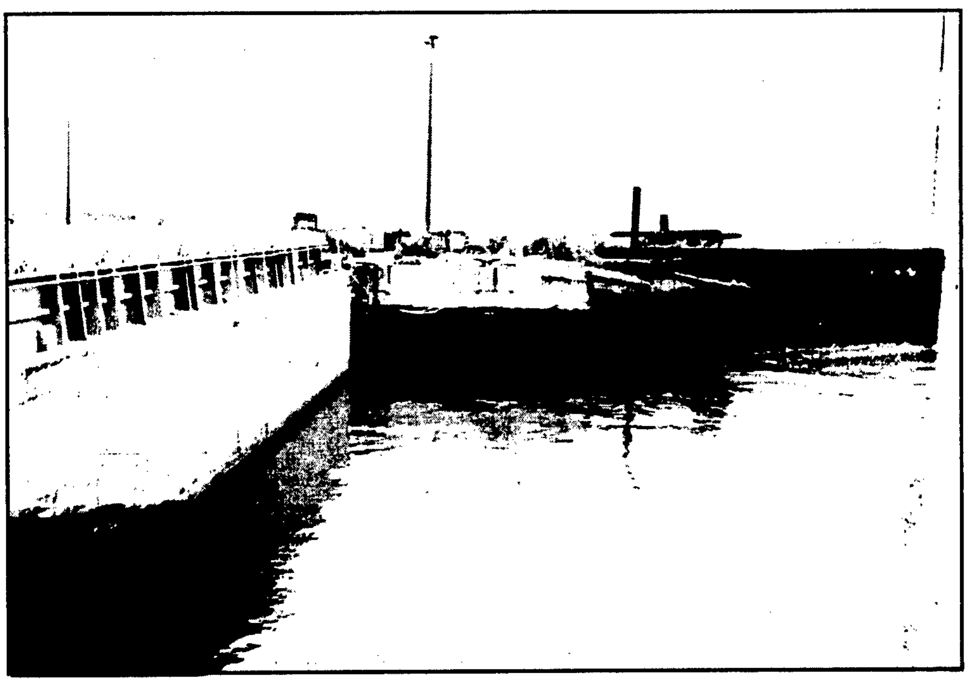


Figure 3.12-2: Drydock 4

Prod.:\141-15 EIREIS\Figures 98\PHDD4.FH7 6/9/99 JL



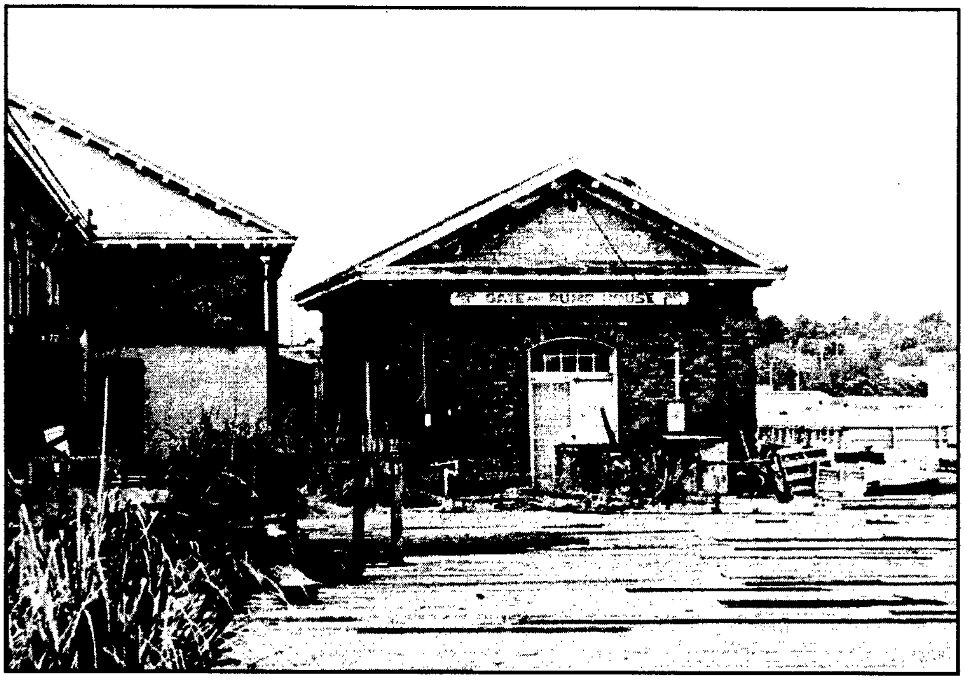
Drydock 2



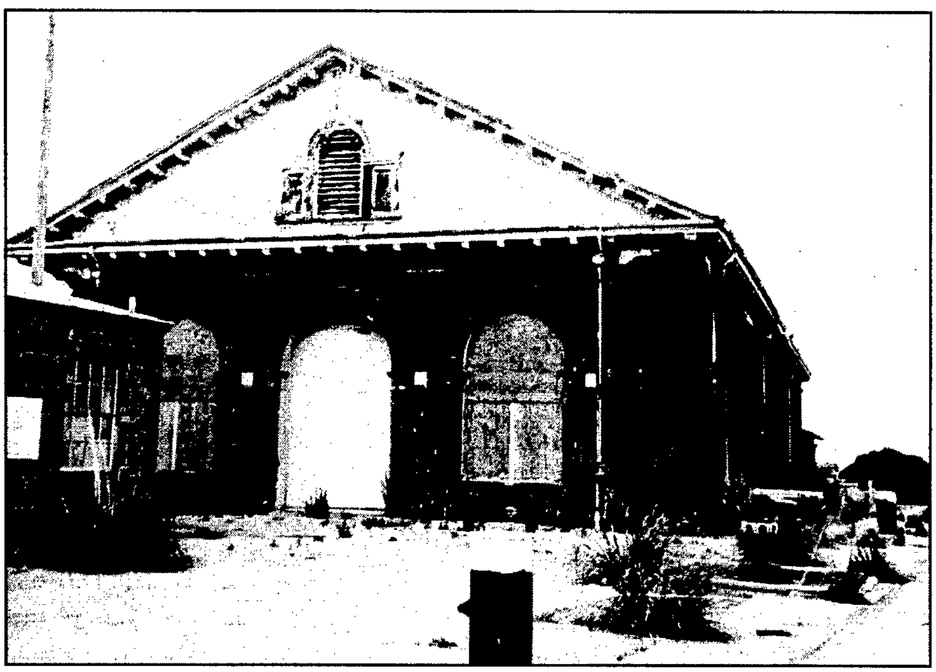
Drydock 3

Prod.:141-15 EIREIS\Figures 98\PHDD2-3.FH7 6/9/99 JL

Figure 3.12-3: Drydock 2 and Drydock 3



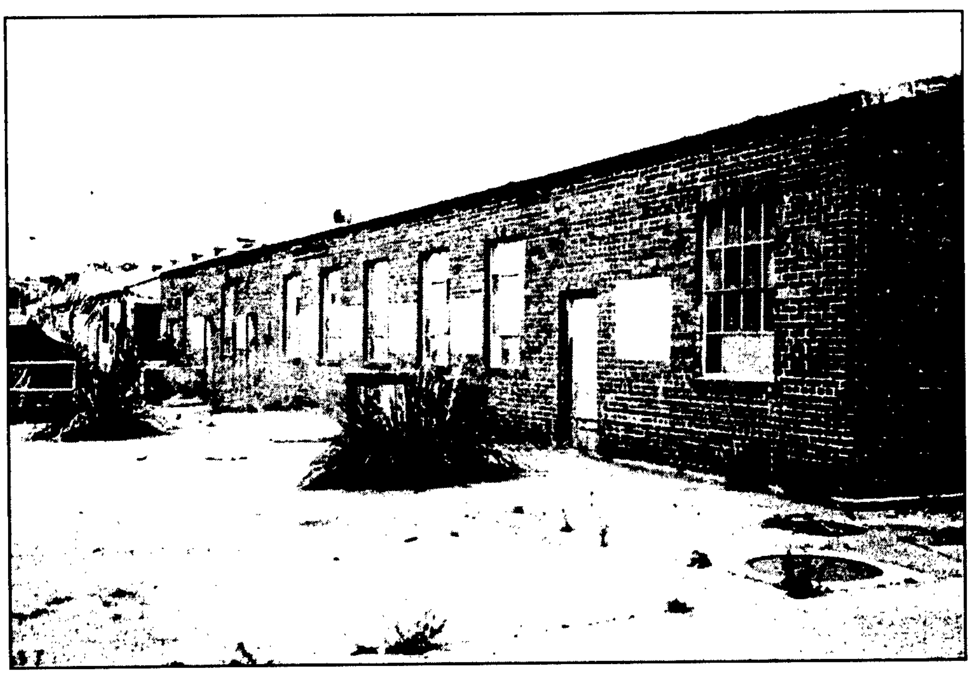
Gatehouse (Building 204)



Pumphouse 2 (Building 205)

Figure 3.12-4: Gatehouse (Building 204) and Pumphouse 2 (Building 205)

Pumphouse 3 (Building 140)



Tool and Paint Building (Building 207)

Prod.:\141-15 EIREIS\Figures 98\bg140-207.FH7 6/9/99 JL

Figure 3.12-5: Pumphouse 3 (Building 140) and Tool and Paint Building (Building 207)

in the Historic American Engineering Record (HAER). Drydock 4 is currently under lease to Astoria Metals. The National Park Service accepted the HAER documentation in November 1996.

In July 1999, the Navy entered into a MOA with the ACHP and the SHPO regarding the interim leasing and disposal of the historic properties at HPS (Drydock 4 and the Commercial Drydock Historic District). The MOA is included in Appendix B.

3.12.6 Plans and Policies

Federal historic preservation laws and regulations concerning treatment of historic resources on Federal properties include the National Historic Preservation Act (NHPA), 16 U.S.C.A. § 470f (West, 1985 and Supp. 1998), as amended, and the regulations for Protection of Historic Properties (36 C.F.R. Part 800 [1998]) implementing Section 106 of NHPA. Additional responsibilities are placed on the activity commander or commanding officer pursuant to cultural resources requirements of the DOD and the Department of the Navy (DOD Directive 4710.1 of 21 June 1984, Archeological and Historic Resources Management; Department of the Navy, U.S. Navy Operational Naval Instructions [OPNAVINST] 5090.1B, Historic and Archeological Resources Protection, 1 November 1994, Chapter 23, as amended by Change 1).

Two other Federal laws that pertain to cultural resources are the Archeological Resources Protection Act of 1979, 16 U.S.C.A. § 470aa-11, and the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, 25 U.S.C.A. §§ 3001-3013 (West, Supp. 1998). The Archeological Resources Protection Act of 1979 requires that permits be issued to excavate any archeological resources on Indian tribal or Federal lands.

NAGPRA requires Federal agencies and museums receiving Federal funds to inventory and repatriate human remains, associated and unassociated funerary objects, and items of cultural patrimony collected on Indian or Federal land. These items must be returned, upon request, to lineal descendants or to Indian tribes with the closest cultural affiliation. If such burial remains are discovered in the future at HPS while the property is still Federally owned, they are subject to protection and handling requirements listed in NAGPRA, Pub. L. 101-601 § 3(d)(1).

State Laws

The principal state law relating to preservation of historical and archeological properties is the California Environmental Quality Act (CEQA), Cal. Pub. Res. Code §§ 21000-21178.1 (West, 1996 and Supp. 1999). CEQA Appendices G and K suggest that significant effects on cultural resources be determined during the project planning stage. Under this law, cultural resources include both prehistoric and historic archeological sites, as well as paleontological resources or properties of historic, cultural, or architectural significance to a community, ethnic group, or social group.

The California Register Act of 1992, Cal. Pub. Res. Code §§ 5020.1-5029 (West, Supp. 1999) and 21084-21084.1 (West, 1996), provides specific guidance for the protection of archeological resources. The California Register of Historical Resources is a listing of significant historical resources in the state, similar to the NRHP at the national level. NRHP-listed or eligible properties are automatically listed in the California Register. Cal. Pub. Res. Code § 21084.1 provides instructions on the treatment under CEQA of projects that may result in a "substantial adverse change" to historic properties. Generally, a project that will have a "substantial adverse change" upon a California Register property is regarded as having the potential for a significant effect on the environment.

3.13 BIOLOGICAL RESOURCES

This section describes the vegetation, wildlife, sensitive species, and sensitive habitats in the ROI, which includes HPS and areas of native habitat within half a mile (0.8 km) of the facility, including Yosemite Slough, Candlestick Point State Recreation Area, Bayview Park, and Pier 98.

3.13.1 Background Data/ Information

Navy conducted field surveys of HPS in 1995 and 1996 (U.S. Navy, 1995b and 1996d). Other studies and sources of information on biological resources and sensitive species within the ROI include the California Natural Diversity Data Base (CNDDB) (California Department of Fish and Game, 1995), the Homeporting EIS for Hunters Point (U.S. Navy, 1986), the *Hunters Point Shipyard Land Use Plan; Existing Conditions Report* (City and County of San Francisco, Planning Department and San Francisco Redevelopment Agency, 1994), a list of sensitive species from the U.S. Fish and Wildlife Service (USFWS) (USFWS, 1994a; USFWS, 1996), and a list of species observed at HPS.

3.13.2 Vegetative Communities

HPS is predominantly developed and industrial, characterized by extensive paved areas, disturbed open space areas, and landscaping. No areas of undisturbed vegetation are present within HPS. The disturbed open space includes areas once paved or used as storage or disposal sites. Landscaped vegetation includes lawns and nonnative planted trees and shrubs. _Upland areas are dominated by nonnative species, including sand verbena (*Ambronia maritima*), sea rocket (*Cakile edentela*), and yellow star-thistle (*Centuarea solstitialis*).

There are 6 areas of wetlands, comprising a total area of 10 acres (4 ha) (U.S. Navy, 1992). Pickleweed (*Salicornia virginica*) and saltgrass (*Distichlis spicata*) dominate the vegetation in these areas. Wetlands and aquatic habitats are the only native habitats, and these have been extensively disturbed by human activities at the facility (U.S. Navy, 1995b). A list of plant species found at HPS is provided in Appendix B, Table B-42.

Vegetation on other lands within the ROI is similar to that found at HPS. Most of the land within the ROI is developed, dominated by residential and industrial uses. Vegetation on these lands tends to be either nonnative species commonly used for landscaping or weedy species. The coastline north and south of HPS, including Pier 98, Candlestick Point State Recreation Area, and Yosemite Slough, is disturbed open space, dominated by nonnative species. Vegetated areas at Pier 98 include approximately 10 acres (4 ha) of potential wetlands habitat and about 15 acres (6 ha) of upland open space. Plant species at Pier 98 include pickleweed, saltgrass, Italian ryegrass (*Lolium multiflorum*), dodder (*Cuscuta sp.*), and wild oats (*Avena barbata* and *A. fatua*) (U.S. Navy, 1995b). The Candlestick Point State Recreation Area is disturbed by human activity and supports mostly nonnative landscaped vegetation, including nonnative pines (*Pinus* sp.), oaks (*Quercus* sp.), and bermuda grass (*Cynodon dactylon*). Yosemite Slough also is disturbed by human activity, with notable vegetation species being pickleweed, saltgrass, and nonnative shrubs.

The only other large area of open space within the ROI is Bayview Park, between U.S. 101 and 3Com Park. The vegetation at Bayview Park is disturbed but has been protected by restricted access and is less disturbed than many areas in the region. Predominant plant species at Bayview Park include blue gum (*Eucalyptus globulus*) and broom (*Genista monspessulana*), both nonnative species (U.S. Navy, 1995b).

3.13.3 Fish and Wildlife

Wildlife at HPS is typical of that found in local coastal urban areas that are dominated by weedy, nonnative vegetation. Species types include birds, mammals, reptiles, and marine invertebrates and fish. This section identifies the species that have been observed at HPS.

The wetlands, mudflats, and aquatic areas provide foraging and resting opportunities and nesting and breeding habitat for waterfowl and shorebirds. Examples of birds common to these habitats are the lesser scaup (*Aythya affinis*), killdeer (*Charadrius vociferus*), tricolored blackbird (*Agelaius tricolor*), least sandpiper (*Calidris minutilla*), double-crested cormorant (*Phalacrocorax auritus*), long-billed curlew (*Numenius americanus*), herring gull (*Larus argentatus*), and glaucous-winged gull (*Larus glaucescans*). Upland areas provide habitat for songbirds, such as the house finch (*Carpodacus mexicanus*) and red-winged blackbird (*Agelaius phoeniceus*), and introduced species, such as the house sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*). A detailed list of waterfowl, shorebirds, and upland avian species observed at HPS is provided in Appendix B, Table B-43.

The same species of waterfowl and shorebirds at HPS are expected to inhabit other shoreline areas within the ROI, including Yosemite Slough, Candlestick Point State Recreation Area, and Pier 98. During a 1995 survey at Pier 98, the following species were observed, most of which have also been observed at HPS: the greater scaup (*A. marila*), lesser scaup, double-crested cormorant, American avocet (*Recurvirostra americana*), killdeer, whimbrel (*Numenius phaeoceps*), spotted sandpiper (*Actitis macularia*), willet (*Catoptrophorus semipalmatus*), Forster's tern (*Sterna forsteri*), and red-winged blackbird (*A. phoeniceus*) (U.S. Navy, 1995b). Likewise, the inland areas within the ROI support the same upland avian species as noted for HPS. A survey at Bayview Park noted the house finch, American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), rock dove (*Columba livia*), and house sparrow (U.S. Navy, 1995b).

Mammals at HPS and within the ROI include domestic cats and dogs, California ground squirrels (*Otospermophilus beecheyi*), black-tailed hares (*Lepus californicus*), and house mice (*Mus musculus*). Reptile species include the western fence lizard (*Sceloperus occidentalis*) and gopher snake (*Pituophis melanoleucus*). Appendix B, Table B-44, lists mammal and reptile species that could inhabit the ROI. Most of these species are common in California.

During trawl sampling conducted by the California Department of Fish and Game (CDFG) between 1980 and 1985 off the shoreline of the ROI, approximately 50 fish species were recorded. Common species included the northern anchovy (*Engraulis mordax*), Pacific herring (*Clupea pallasii*), topsmelt (*Atherinops affinis*), jacksmelt (*Atherinopsis californiensis*), and yellowfin goby (*Acanthogobius flaimanus*) (U.S. Navy, 1987).

3.13.4 Sensitive Species

No sensitive species are known to inhabit HPS. Sensitive bird species may pass through or occasionally forage at the site. Included as sensitive species are those species of special concern to the CDFG. Endangered, threatened, and sensitive species known to occur at HPS or within a half-mile (0.8-km) radius are listed in Table 3.13-1.

In 1996, Navy surveyed HPS for the presence of the Federally protected mission blue butterfly (*Icaricia icariodes missionensis*). No individuals of the endangered butterfly or its requisite larval food plants were observed during the survey. Due to the absence of its larval food plants, the mission blue butterfly is not expected to occur at HPS (U.S. Navy, 1996d).

Those sensitive species that may forage or pass through HPS are discussed below.

Plants

No sensitive plant species are known to occur within the ROI, due to the disturbed nature of the area and lack of suitable habitat. No sensitive plant species were observed during a 1995 rare plant survey (U.S. Navy, 1995b).

Animals

No sensitive animal species are known to inhabit HPS due to the small amount of undisturbed habitat. Several sensitive avian species, as described below, may occasionally forage at HPS, but none are known to nest there.

Peregrine falcons (*Falco peregrinus anatum*) have been observed foraging at HPS (U.S. Navy, 1994b). Open ledges, caves, cliffs, and human-made structures provide peregrines with suitable nesting sites. The birds prefer perches that overlook coastal waters, rivers, or lakes. This species feeds mainly on smaller birds and may occasionally

TABLE 3.13-1
ENDANGERED, THREATENED, AND SENSITIVE SPECIES POTENTIALLY INHABITING HPS

FOUND AT HPS	COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS
		Plants		
	None			
		Invertebrates		
	None			
		Fish (off-shore of HPS)		
O	winter-run Chinook salmon	*Oncorhynchos tshawytscha*	E	E
P	steelhead (Central Calf. Coast)	*O. hynchus mykiss*	T	none
P	steelhead (Central Valley)	*O. hynchus mykiss*	PE	none
O	longfin smelt	*Spirinchus thaleichthys*	SC	CSC
		Amphibians and Reptiles		
	None			
		Birds		
O	western snowy plover (breeding)	*Charadrius alexandrinus nivosus*	T	CSC
O	Peregrine falcon*	*Falco peregrinus anatum*	E	E
O	California black rail	*Laterallus jamaicensis*	SC	T
P	California brown pelican*	*Pelecanus occidentalis californicus*	E	E
O	California clapper rail	*Rallus longirostrus obsoletus*	E	E
O	California least tern*	*Sterna antillarum browni*	E	E
O	Swainson's hawk*	*Buteo swainasoni*	none	T
P	Clark's grebe*	*Aechmophorus clarkii*	none	CSC
P	western grebe*	*A. occidentalis*	none	CSC
O	tri-colored blackbird*	*Agelius tricolor*	SC	CSC
P	burrowing owl (burrow sites)	*Athene cunicularia*	SC	CSC
O	Barrow's goldeneye*	*Bucephala islandica*	none	CSC
P	common loon*	*Gavia immer*	none	CSC
P	sharp-shinned hawk*	*Accipiter striatus*	none	CSC
P	loggerhead shrike*	*Lanius ludovicianus*	none	CSC
P	California gull*	*Larus californicus*	none	CSC
O	Alameda song sparrow	*Melospiza melodia pusillula*	SC	CSC
O	long-billed curlew*	*Numenius americanus*	none	CSC
O	double-crested cormorant*	*Phalacrocorax auritus*	none	CSC
		Mammals		
P	greater western mastiff bat	*Eumops perotis californicus*	SC	CSC
P	Townsend's big-eared bat	*Plecotus townsendii townsendii*	SC	CSC

Sources: CDFG, 1994a, 1994b, 1994c, 1995; USFWS, 1994a, 1994b, 1994c, 1995, 1996; U.S. Navy, 1986, 1995b, 1996d.

Notes: *This species has been observed at HPS in past surveys or by local residents (see Appendix B, Table B-37).

Found at HPS
O= Occasional (foraging or transitory)
P = Possible Federal Status
E = Endangered
T = Threatened
PE = Proposed Endangered
C = Candidate (formerly Category 1 Candidate)
SC = Species of Concern (formerly Category 2 Candidate)

State Status
E = Endangered
T = Threatened
R = Rare
CSC = California Species of Special Concern

use HPS for foraging. The closest known peregrine falcon nest is on the Bay Bridge, approximately 5 miles (8 km) from HPS.

The western snowy plover (*Charadrius alexandrinus nivosus*) is not known to inhabit or nest at HPS or elsewhere in the ROI because of the lack of undisturbed beach habitat. It may occasionally visit the small wetlands at HPS and Pier 98, as well as Yosemite Slough for foraging. This species nests on beaches along the Pacific Coast and has been observed at Bay Farm Island, to the east of HPS near the City of Oakland.

The California clapper rail (*Rallus longirostrus obsoletus*) and California black rail (*Laterallus jamaicensis*) may occasionally forage in the wetlands at HPS, as well as at Pier 98 and Yosemite Slough. The clapper rail historically bred along the Pacific Coast from Humboldt County to San Luis Obispo County, and the black rail historically bred from Marin County to San Diego County.

Brown pelicans may forage in the offshore areas adjacent to HPS and the ROI shoreline, but they do not nest within the ROI. The brown pelican (*Pelecanus occidentalis californicus*) has historically bred along most of the Pacific Coast but now breeds only on islands off the coast of southern California.

California least terns (*Sterna antillarum browni*) may pass through and forage at HPS during their migration between southern California and northern California nest sites. Small beach areas at HPS may occasionally provide foraging and roosting areas for the California least tern. This species tends to nest in large colonies, the most notable of which in the Bay Area is at Alameda Point, approximately 10 miles (16 km) to the east across San Francisco Bay.

Swainson's hawk (*Buteo swainasoni*) may transit and forage at HPS but is not known to nest in the ROI. Gophers and rats are the preferred diet of the Swainson's hawk, making large undisturbed upland fields its preferred habitat.

Chinook salmon (*Onchorhynchus tshawytscha*) and steelhead trout (*Oncorhynchus mykiss*) may transit the waters offshore during migration periods; however, there is no critical habitat for these species at HPS or in the waters offshore of the ROI. Chinook salmon (fall run) are reported to utilize the Guadalupe River, Coyote Creek, and Alameda Creek, all tributaries to south San Francisco Bay. Similarly, steelhead trout are reported to use numerous south Bay tributaries and could also utilize the HPS offshore waters as a migration corridor. For both of these species, however, most of the population reaches their freshwater spawning grounds through the Sacramento River Delta, which drains into San Francisco Bay approximately 15 miles (24 km) north of HPS. The most direct migration route for the majority of spawning adults and sea-bound juveniles is, therefore, the path that tracks north of Alcatraz Island and north of the Bay Bridge, which is about 5 miles (8 km) north of HPS. The population decline of the Federally protected winter-run and proposed threatened fall-run chinook salmon is due primarily to modifications and loss of spawning and rearing habitat in the upper Sacramento-San Joaquin river system. Likewise, habitat destruction along coastal streams and within the San Joaquin watershed has degraded habitat for the Central Valley and Central California Coast steelhead species.

Nonlisted Sensitive Animal Species at HPS

Nonlisted species are those not listed as endangered or threatened by the USFWS or CDFG but that are considered to be species of special concern by the CDFG. Several nonlisted sensitive animal species, included in Table 3.13-1, have been observed at HPS but are not known to inhabit or nest at the site, due to lack of suitable habitat. Also included in Table 3.13-1 are nonlisted sensitive species that might pass through or forage at HPS but that have not been observed.

3.13.5 Sensitive Habitats

Six small, unconnected wetlands have been delineated at HPS (U.S. Navy, 1992), occupying less than 10 acres (4 ha). Figure 3.13-1 identifies these wetlands, as well as the upper boundary between wetland and aquatic habitats. The dominant vegetation is pickleweed and saltgrass. The wetlands provide habitat for common waterfowl and shorebirds, such as those previously described. Mudflats are also present along the undeveloped southern and northern coastlines of the property. These habitats provide foraging opportunities for a variety of avian and aquatic species.

North of HPS, there are approximately 10 acres (4 ha) of mudflats and tidal salt marsh at Pier 98. The City is planning to restore these areas to tidal wetland habitat. Yosemite Slough also maintains tidal wetland habitat functions and values. These areas provide foraging opportunities for avian and aquatic species.

3.13.6 Plans and Policies

Federal Requirements

Federal Endangered Species Act

The Federal Endangered Species Act (ESA), 16 U.S.C.A. §§ 1531-1544 (West, 1985 and Supp. 1998), directs that all Federal agencies and departments use their authority to conserve endangered and threatened species. Section 7 of the ESA for Federal actions requires a Federal agency to consult with USFWS (or National Marine Fisheries Service for some species) before undertaking actions that could affect endangered and threatened species. Federal agencies are prohibited from activities that USFWS determines could jeopardize the continued existence of these species.

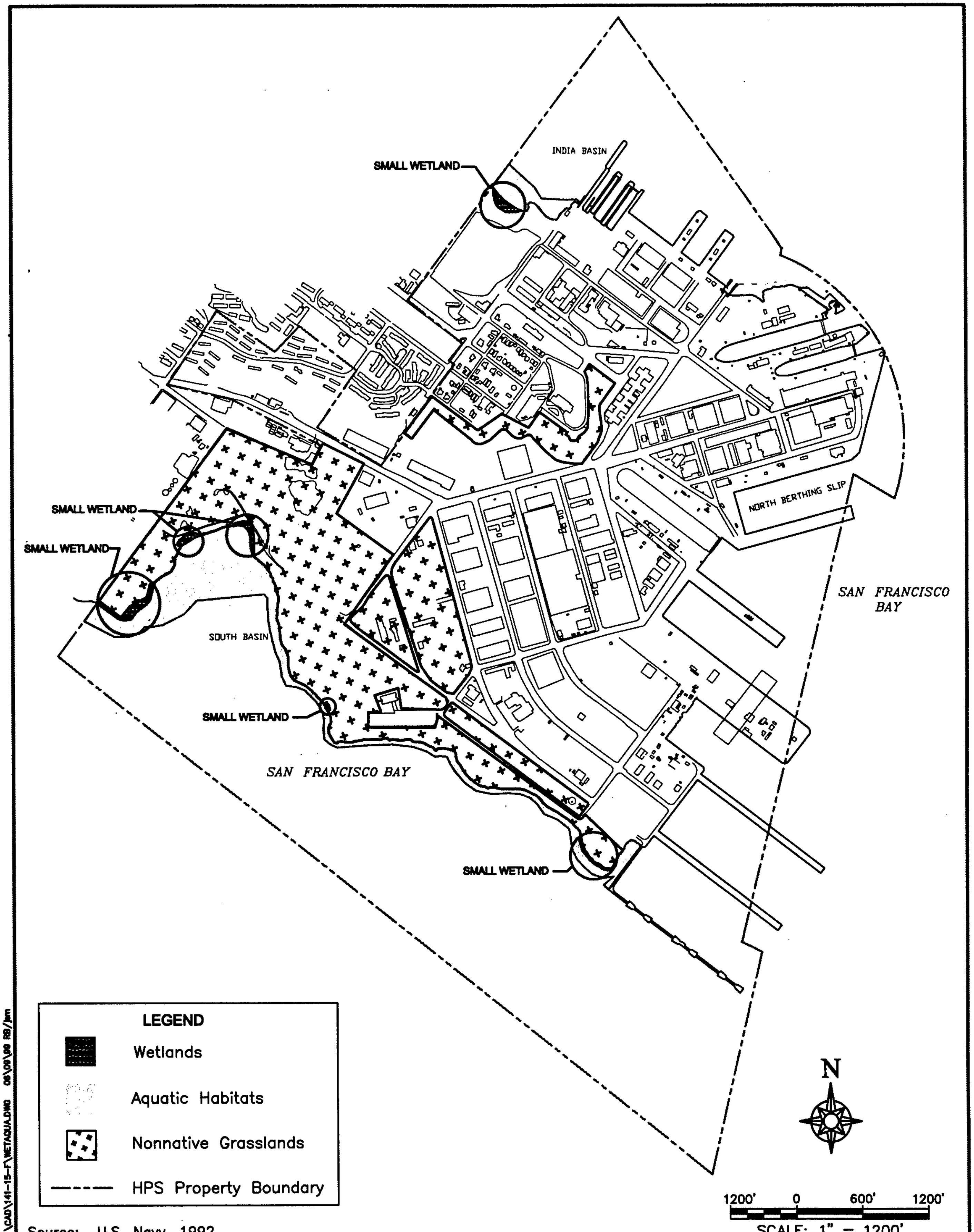


Figure 3.13-1: Wetlands and Aquatic Habitats, Hunters Points Shipyard

In addition, the ESA requires that USFWS issue a permit prior to actions that would result in the killing, harming, or harassing of an endangered or threatened species. A similar process under Section 10a of the ESA is required for state and local agencies, as well as for individuals.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1972, 16 U.S.C. § 703, prohibits the taking of individuals, nests, or eggs of a migratory bird species. Migratory birds, such as swallows and terns, nest and pass through the ROI during the spring and fall.

Clean Water Act

The U.S. Army Corps of Engineers (COE) regulates impacts on wetlands under Section 404 of the CWA, 33 U.S.C.A. §§ 1251-1387 (West, 1986 and Supp. 1998). Wetlands are considered important to the public interest in that they perform significant biological functions, such as providing nesting, breeding, foraging, and spawning habitat for a wide variety of resident and migratory animal species (U.S. Army Corps of Engineers Regulatory Program Regulations, 33 C.F.R. § 320.4).

Projects that include potential dredge or fill impacts on wetlands must be reviewed by the COE and U.S. EPA under the CWA. Certain activities in wetlands are automatically authorized or granted a general permit, allowing wetlands to be filled where impacts resulting from a single and complete project do not exceed 1 acre (0.4 ha). The COE assumes discretionary jurisdiction over proposed impacts of between 1 and 10 acres (0.4 to 4 ha).

Wetland Regulations

Executive Order 11990 requires that Federal agencies, to the extent permitted by law, avoid construction in wetlands unless no practicable alternative to the construction exists and that all practicable measures to minimize harm to wetlands, including opportunities for public review of plans or proposals, be provided. It further requires that any disposal to non-Federal public or private parties of properties containing wetlands reference in the conveyance uses that are restricted under identified Federal, state, or local wetland regulations.

State Requirements

California Endangered Species Act

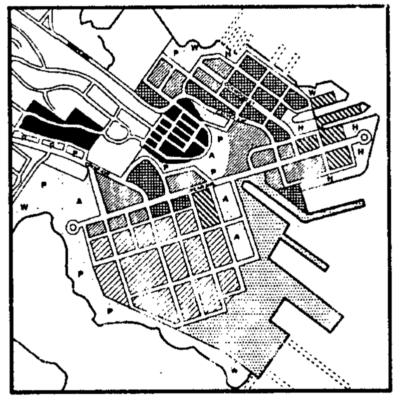
California has procedures similar to the Federal ESA for non-Federal projects under the California Endangered Species Act, California Fish and Game Code §§ 2050-2116 (West, 1998 and Supp. 1999). The CDFG can adopt a Federal biological opinion as a state biological opinion under California Fish and Game Code § 2095. Upon Navy disposal, HPS reuse would be subject to these state regulations.

CDFG Wetlands Policies

The CDFG has the authority to reach an agreement with an individual proposing to affect intermittent or permanent streams and other wetlands pursuant to Section 1603 of the California Fish and Game Code. The CDFG generally evaluates the information gathered during preparation of the environmental assessment document and attempts to satisfy its concerns during the state's environmental review process. In accordance with its policy of "no net loss" of wetland habitat, the CDFG requires completion of a streambed alteration agreement for actions that affect streams and wetlands. This agreement is made between a project proponent and the CDFG to minimize adverse effects on streams and wetlands.

This page intentionally left blank.

4 Environmental Consequences



CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

CONTENTS PAGE

ENVIRONMENTAL CONSEQUENCES 4-1

4.1 Transportation, Traffic, and Circulation 4-3

4.2 Air Quality 4-22

4.3 Noise 4-33

4.4 Land Use 4-40

4.5 Visual Resources and Aesthetics 4-50

4.6 Socioeconomics 4-55

4.7 Hazardous Materials and Waste 4-61

4.8 Geology and Soils 4-66

4.9 Water Resources 4-69

4.10 Utilities 4-78

4.11 Public Services 4-84

4.12 Cultural Resources 4-86

4.13 Biological Resources 4-91

4. ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential environmental consequences associated with Department of the Navy (Navy) disposal and City and County of San Francisco (City) reuse of Hunters Point Shipyard (HPS). The disposal action would convey the facility out of Navy ownership. The City's reuse would result in adaptive reuse of some existing structures and facilities, as well as new construction. The Proposed Reuse Plan identifies general categories and densities of land uses that would be allowed. Impacts are described at a general level of detail, consistent with the level of detail in the Proposed Reuse Plan. Given the programmatic nature of this discussion, future site-specific infrastructure and development proposals could require additional environmental analysis under the California Environmental Quality Act (CEQA) if the nature and magnitude of impacts differs from those described in this document.

Under the City's Proposed Reuse Plan and the Reduced Development Alternative, impacts are considered for two phases of development: partial build-out at 2010 and full build-out at 2025. Potential cumulative impacts are discussed in Section 5.1.

For the purposes of analysis under the National Environmental Policy Act (NEPA), direct environmental consequences or impacts are those associated with Navy disposal and the No Action Alternative, and indirect impacts are those associated with community reuse of Navy property. Navy's responsibility for disclosing indirect reuse-related environmental impacts is to address reasonably foreseeable impacts.

Under NEPA, the Federal agency proposing an action must evaluate the environmental effects (impacts) that can reasonably be anticipated to be caused by or result from the proposed action. The proposed action is the disposal and reuse of excess Federal property at HPS. Inasmuch as the proposed action will be required to comply with all applicable Federal, state, interstate, and local laws and regulations, the environmental impacts that Navy has evaluated are those impacts that can reasonably be expected to result from the lawful implementation of the proposed action, i.e., in accordance and in full compliance with all applicable laws and regulations.

For example, if an alternative under consideration includes the construction or operation of a facility, and it can be reasonably anticipated that the construction or operation of the facility would result in the generation of noise, air and water pollution, and solid and hazardous wastes, the impacts evaluated are those associated with the lawful construction or operation of the facility subject to, and in compliance with, all applicable Federal, state, interstate, and local requirements respecting noise, air and water pollution, and solid and hazardous waste.

In identifying direct impacts and reasonably foreseeable indirect impacts, Navy has taken into account all applicable measures and restrictions protective of human health and the environment required by existing laws and regulations. In many instances, the existence of such laws and regulations renders impacts that might have occurred in the absence of such laws highly unlikely and not reasonably foreseeable. In other instances, such laws and regulations work to lessen potential impacts to less than significant levels. Because compliance with applicable law is mandatory upon the proponent of the action, compliance with the requirements of such laws and regulations is not separately identified as mitigation. Mitigation, as the term is used for purposes of the NEPA analysis, means only those discretionary measures (i.e., measures not required by operation of law) the proponent of the action can take to eliminate or lessen the impacts of the action. For example, where, as here, an acquiring entity or entities will be required to obtain and comply with environmental permits, Navy does not consider the obtaining of permits or compliance with the terms of such permits to be mitigation.

Each identified impact is characterized as to its significance. Impacts are identified as either significant or less than significant. The text identifies significant impacts (and corresponding mitigation, if feasible), less than significant impacts, and unavoidable significant impacts for which mitigation is either not feasible or would not eliminate or reduce the impact to a less than significant level. Although the focus of this analysis is on identifying adverse impacts, some beneficial effects also are identified in the text.

Determining Significance

"Significantly" as used in NEPA requires consideration of both context and intensity. An action must be analyzed in several contexts, such as society as a whole (human, national), the affected region, the affected interests, and the locality. In the case of a site-specific action, such as is being proposed here, significance would usually depend upon the effects in the locale rather than in the world as a whole. "Intensity" refers to the severity of the impact.

This chapter is arranged by resource area, as in Chapter 3, Affected Environment. Potential significant impacts on each resource area are described for Navy's disposal action, the two reuse alternatives, and the No Action Alternative. The impact analysis compares projected future conditions to the affected environment described in Chapter 3. For each resource area, the factors that were considered in assessing the potential significance of the action's impact are identified. For each identified impact, the relevant factor is listed in parentheses following the title of the impact. In some cases, resource area sections contain a discussion of the methodology and general assumptions used in the environmental impact analysis. To focus the analysis on impacts, some detailed analysis assumptions are presented in Appendix B (Supporting Technical Information), rather than in this chapter.

Navy would be responsible for mitigation measures identified in its Record of Decision (ROD) for the proposed disposal action. Since reuse would occur after the property is transferred from Federal ownership, implementing the mitigation measures identified for impacts associated with reuse would be the responsibility of the acquiring entity (under the direction of Federal, state, and local agencies with regulatory authority over protected resources), and not Navy.

4.1 TRANSPORTATION, TRAFFIC, AND CIRCULATION

As discussed in Chapter 3, the region of influence (ROI) for transportation, traffic, and circulation includes regional and local access routes and the street system within HPS. This ROI also encompasses public transit modes: rail, light rail, and bus services that could serve HPS; bicycle routes to and through the ROI; and pedestrian facilities.

Factors considered in determining whether an alternative would have a significant impact on transportation, traffic, and circulation include the extent or degree to which the implementation of an alternative would 1) cause the Level of Service (LOS) to deteriorate to LOS E or F or increase congestion at intersections currently operating at or anticipated to operate at LOS F; 2) increase demand on public transportation (transit) in excess of planned or anticipated capacity at time of increase; 3) increase demand for bicycle and pedestrian facilities in excess of planned or anticipated capacity at time of increase; 4) increase traffic along freeway segments and ramps; and 5) increase truck traffic.

Traffic Impact Methodology

Traffic impacts were assessed for intersections, freeway segments, and ramps by calculating the number of traffic trips that would be generated (referred to as "trip generation") based on the type and density of land uses proposed and the amount of mass and alternate forms of transit assumed to occur. These trips, or traffic volumes, were then distributed ("trip distribution") to the existing transportation system described in Section 3.1.1. Since HPS would be built out in phases, trip generation and distribution were calculated for two periods, 2010 and 2025. Future conditions of intersections, freeway segments, and ramps were compared to future baseline conditions (described in Section 3.1.5).

Table 4.1-1 presents the number of average daily person trips and the corresponding number of average daily vehicle trips associated with the Proposed Reuse Plan and the Reduced Development Alternative for 2010 and 2025.

TABLE 4.1-1: PROJECTED DAILY PERSON TRIPS AND VEHICLE TRIPS

SCENARIO	TOTAL DAILY[1] PERSON TRIPS	TOTAL DAILY[2] VEHICLE TRIPS	PEAK HOUR* A.M.	PEAK HOUR* P.M.
Proposed Reuse Plan				
2010	33,415	12,686	10.5%	11.7%
2025	58,700	21,832	9.1%	10.3%
Reduced Development Alternative				
2010	14,900	5,580	8.8%	10.0%
2025	27,390	10,000	7.8%	9.6%

Notes:

* As a percentage of total Daily Person Trips.

[1] Person-trips refer to the number of people coming to and leaving HPS and includes different forms of transportation, such as bus, car, carpool, etc.

[2] Vehicle-trips refer to the number of vehicles coming to and leaving HPS.

The number of daily person trips was calculated based on each of the associated land uses proposed for HPS redevelopment. Each land use element has a different daily person trip generation factor associated with it, as well as daily vehicle trips, depending on the combination of transportation modes (e.g., automobiles, carpool, van pool, taxi, motorcycles, walking). For each reuse alternative, the daily person trips and corresponding daily vehicle trips were calculated for each of the proposed land uses and totaled. For example, under the Proposed Reuse Plan, the HPS project would generate about 2,355 person trips in vehicles, 655 transit trips, and 495 other trips (taxi, bicycle, motorcycle, walking, etc.) for a total of 3,505 total person trips in the A.M. peak hour in year 2010. This would result in about 67 percent of all A.M. peak hour trips in automobiles, 19 percent by transit, and 14 percent by other modes. This distribution is based on the objectives and policies of the Proposed Reuse Plan regarding the use of transit and alternative modes at HPS, which would by achieved through Transportation Demand Management (TDM) measures described later in this section. The P.M. peak hour person trips would be higher than the A.M. peak hour (3,920 versus 3,505 for year 2010), because retail uses would generate more trips in the P.M. peak hour than the A.M. peak hour. However, the percentage of people using various modes of transportation would be similar.

The peak hour traffic could be slightly higher in the evening in all of the scenarios evaluated. Table 4.1-1 shows the results on a percentage basis.

Trip Distribution

Trip distribution patterns were based on the Citywide Travel Behavior Survey (CTBS) data for Superdistrict 3[1] within San Francisco (City and County of San Francisco, 1993a and 1993b). Based on the results of this survey, about 75 percent of projected vehicle trips to and from HPS would be from within the City, with 25 percent from regions outside the City. This pattern was used as the basis for assigning the projected vehicle trips to local streets, ramps, and freeways.

Modal Splits

Modal splits represent the percentage of trips generated at HPS that would be made by transit and auto. Modal split information was derived from the Metropolitan Transportation Commission (MTC) regional travel demand model (Year 2010 forecast) for the South Bayshore area, with adjustments to reflect potential increases in transit services in the area.

Under reuse, it is estimated that 12.9 percent of HPS workers from the mixed use, research and development, industrial, cultural, residential and open space land uses would take public transit. Another 14.3 percent of workers would take other forms of transit (i.e., walk or bicycle). The remaining 72.7 percent of workers would drive. For the residential land use, 31.2 percent of workers would take public transit, and 10.2 percent would use another form of transit. The remaining 58.6 percent would drive.

For non-workers, it is estimated that for all land uses except residential, 11.6 percent would take public transit and 24.4 to 25 percent would use other forms of transit. The remaining 63.3 to 64 percent would drive. For the residential land use, 17 percent of non-workers would take public transit and 6 percent would use other forms of transit. The remaining 77 percent would drive.

Public Transportation

Potential transit improvements for HPS were identified in the *Hunters Point Shipyard Transportation Plan* (San Francisco Redevelopment Agency, 1996), which is available for review at the San Francisco Redevelopment Agency. The plan calls for the expansion of San Francisco Municipal Railway (MUNI) Route #19 to directly serve the center of the major development (along Lockwood Street). It also proposes to extend Route #54 Fulton into the Hillside Residential Development area and extend Route #23 Monterey into HPS along Crisp Avenue, Spear Avenue, with termination near Innes Avenue at

[1] Superdistrict 3 is bounded by Twin Peaks, San Francisco Bay, and the San Mateo county line. Superdistrict 3 includes the South Bayshore, Potrero Hill, Mission, Eureka Valley, Glen Park, and Diamond Heights districts. The superdistrict is shown on Figure B-1 in Appendix B.

Donahue Street. The *Plan* also proposes to increase hours of service for these three lines to between 5:00 A.M. and 12:00 midnight.

These potential improvements, as well as transit improvements assumed to exist by 2010 and 2020 in the *1994 Regional Transit Plan for the San Francisco Bay Area* (RTP) (MTC, 1994), were considered when developing modal split data for future conditions.

Bicycle and Pedestrian Circulation

Bicycle routes are described in the *Hunters Point Shipyard Transportation Plan* (San Francisco Redevelopment Agency, 1996). These routes would be considered for funding and implementation as part of a Transportation System Management Plan (TSMP). In general, there would be two types of bicycle systems at HPS: Class 1 (path separated from automobile traffic to accommodate recreational travel) and Class II (exclusive bicycle lane designation on both sides of roadways to serve commute traffic). The Class I system would essentially be a bicycle/pedestrian trail along the HPS waterfront. Class II systems would be provided along Crisp, Spear, and Innes Avenues. Bicycle routes within HPS would be connected to the existing and proposed bicycle routes described in the *San Francisco Bicycle Plan* (City and County of San Francisco, Department of Parking and Traffic, 1997b). The shoreline pedestrian/bicycle trail would connect with the Bay Trail (See Section 3.1.1).

According to the *San Francisco Bicycle Plan*, Route 68, along Evans Avenue, Hunters Point Boulevard, and Innes Avenue, was laid out "to serve future development of the Hunters Point Naval Shipyard site ... Route 68 will eventually form a loop through the shipyard site by connecting with Route 70. At this time, the streets within the shipyard that are recommended for Routes 68 and 70 are Donahue Street; Galvez, Horne, Spear, and Crisp Avenues; and Griffith Street. The specific streets used within the shipyard site may vary depending on the land use pattern and street network when this area is redeveloped ... Innes Avenue is recommended for bike lanes between Hunters Point Boulevard and Donahue Street in order to improve bicycle safety ... The route continues via Palou Avenue, Phelps Street, Oakdale Avenue and Silver Avenue."

The *Hunters Point Shipyard Transportation Plan* (San Francisco Redevelopment Agency, 1996) identified potential pedestrian and bicycle improvements at HPS. Roadways within HPS would have sidewalks on both sides of the street and would be at least 10 feet (3 meters) wide. Sidewalks within the mixed-use district (parts of Lockwood and Spear Streets) would be 15 feet (4.6 meters) wide to accommodate a higher volume of pedestrian traffic.

The *Design for Development* sets forth specific street design guidelines in Figures 15-17 and 20-22. Figure 24 depicts the alignment of the pedestrian/bicycle trail through the waterfront open space. This trail would connect with the Bay Trail alignment to the north and south of the site. The Bay Trail alignment follows along Evans Avenue, Hunters Point Boulevard, Innes Avenue, India Basin Shoreline Park Open Space, Hunters Point Shipyard shoreline, and Candlestick Point State Recreation Area.

Adjustment to Initial Analysis

At the time that the HPS traffic analysis was performed (Appendix B), the Third Street Light Rail Transit (LRT) project was not approved, and circulation changes included in that project were not included in the future background growth projections for the HPS analysis. The Third Street LRT has since been approved. This project will result in the removal of one through lane in each direction along portions of Third Street. Based on a comparison of the Third Street LRT Analysis (U.S. Department of Transportation, Federal Transit Administration and City and County of San Francisco, Planning Department, 1998) and the HPS analysis (Appendix B, Technical Memorandum: Future Baseline Traffic Growth), the initial projections for the Third Street/Cesar Chavez Street intersection have been revised to LOS F for the P.M. peak hour under both the Proposed Reuse Plan and Reduced Development Alternative in 2010 and 2025.

4.1.1 Navy Disposal

The disposal of Federal property at HPS out of Federal ownership would not result in any direct changes in traffic conditions. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.1.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

Significant Unmitigable Impact

Increased Traffic at Third Street/Cesar Chavez Street Intersection (Factor 1). Operation of the signalized Third Street/Cesar Chavez Street intersection would worsen in the P.M. peak hour from LOS B to LOS F by 2010. The addition of project-rated traffic would contribute to long delays (i.e., over 60 seconds per vehicle) at this intersection (see Table 4.1-2, Table 4.1-3, and Figure 4.1-1). This is considered a significant impact.

The following measures would reduce, but not eliminate, traffic congestion, which would remain significant. To reduce vehicle miles traveled, traffic congestion, and air quality impacts, and to ensure that transit ridership is encouraged and transit services meet or exceed demand for those services, the San Francisco Redevelopment Agency and its designees would adopt a TDM approach. The TMA could establish a performance standard for the TDM program that would require future tenants at HPS to meet or exceed the mode splits used for the EIS analysis. The TDM would include the following elements:

TABLE 4.1-2: INTERSECTION LEVEL OF SERVICE—YEAR 2010

INTERSECTION	EXISTING 1993 CONDITIONS				2010 BASELINE (NO ACTION ALTERNATIVE)				PROPOSED REUSE PLAN				REDUCED DEVELOPMENT ALTERNATIVE			
	A.M. PEAK		P.M. PEAK		A.M. PEAK		P.M. PEAK		A.M. PEAK		P.M. PEAK		A.M. PEAK		P.M. PEAK	
	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS
Hunters Point Shipyard Streets																
Crisp Avenue/Spear Avenue*	3.0	A	2.8	A	3.0	A	2.8	A	5.9	B	4.7	A	3.5	A	3.2	A
Crisp Avenue/I Street*	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.6	B	7.7	B	3.8	A	4.0	A
Spear Avenue*/Galvez Avenue	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7.1	B	8.7	B	3.9	A	4.8	A
Donahue Street*/Galvez Avenue	3.3	A	2.9	A	3.3	A	2.9	A	4.2	A	5.0	A	3.0	A	3.3	A
Innes Avenue/Donahue Street*	0.2	A	0.2	A	0.2	A	0.2	A	0.2	A	0.3	A	0.2	A	0.2	A
Donahue St.*/Lockwood Street	3.5	A	3.5	A	3.5	A	3.5	A	4.6	A	4.8	A	3.7	A	3.8	A
Spear Avenue*/Lockwood Street	2.7	A	2.7	A	2.7	A	2.7	A	2.9	A	3.1	A	2.7	A	3.1	A
City and County of San Francisco Streets External to HPS Hunters Point Shipyard																
Evans Avenue*/<u>Hunters Point Blvd.</u>	6.0	B	8.0	B	6.0	B	8.0	B	12.2	B	25.8	D	15.3	C	39.2	D
Third Street/Evans Avenue	17.8	C	16.2	C	25.8	D	29.0	D	≥60	F	≥60	F	36.8	D	25.7	D
Third Street/Cargo Way	18.8	C	11.2	B	33.1	D	11.7	B	26.8	D	11.3	B	30.2	D	11.6	B
<u>Third</u> St <u>(1)</u>/<u>Cesar Chavez</u> Street	12.7	B	14.3	B	12.9	B	12.3	B	32.4	D	≥60	<u>F</u>	14.5	B	≥60	<u>F</u>
Cesar Chavez St./Evans Avenue	24.0	C	39.4	D	35.0	D	25.6	D	34.9	D	21.6	C	17.5	C	20.4	C
Evans Ave./Napolean & Tolano	6.8	B	6.7	B	6.3	B	6.3	B	8.8	B	11.4	B	7.0	B	7.5	B
Third Street/Carroll Avenue	5.9	B	5.9	B	5.6	B	5.8	B	5.7	B	5.9	B	5.7	B	5.8	B
Third Street/Gilman Avenue	11.7	B	9.7	B	11.5	B	9.3	B	11.3	B	9.4	B	11.4	B	9.3	B
Third Street/Palou Avenue	11.2	B	10.0	B	9.4	B	9.4	B	10.0	B	10.0	B	9.6	B	9.6	B

Notes:

<u>*Unsignalized intersections: minor street movement delay and LOS.</u>

<u>sec/veh = seconds per vehicle</u>

<u>(1) Initial projections for the P.M. peak hour revised to LOS F to reflect the approval of the Third Street LRT and associated removal of one through lane in each direction along portions of Third Street.</u>

TABLE 4.1-3: INTERSECTION LEVEL OF SERVICE—YEAR 2025

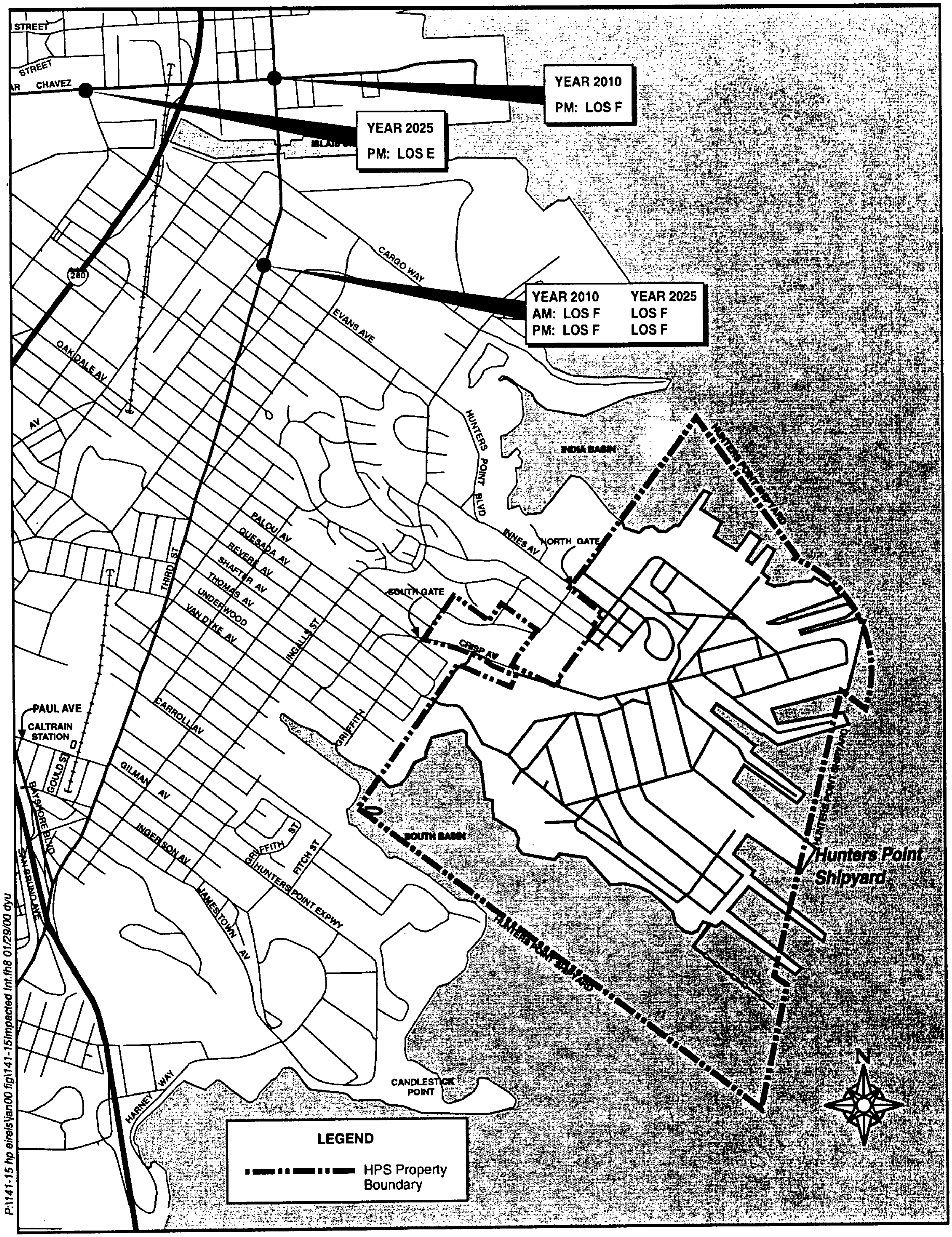
INTERSECTION	EXISTING 1993 CONDITIONS				2025 BASELINE (NO ACTION ALTERNATIVE)				PROPOSED REUSE PLAN				REDUCED DEVELOPMENT ALTERNATIVE			
	A.M. PEAK		P.M. PEAK		A.M. PEAK		P.M. PEAK		A.M. PEAK		P.M. PEAK		A.M. PEAK		P.M. PEAK	
	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS	DELAY (sec/veh)	LOS
Hunters Point Shipyard Streets																
Crisp Avenue/Spear Avenue*	3.0	A	2.8	A	3.0	A	2.8	A	7.4	B	6.6	B	3.8	A	3.7	A
Crisp Avenue/I Street*	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7.9	B	9.8	B	4.1	A	4.4	A
Spear Avenue*/Galvez Avenue	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	9.8	B	24.7	D	4.3	A	7.0	B
Donahue Street*/Galvez Avenue	3.3	A	2.9	A	3.3	A	2.9	A	5.8	B	12.0	C	3.2	A	4.0	A
Innes Avenue/Donahue Street*	0.2	A	0.2	A	0.2	A	0.2	A	0.3	A	0.4	A	0.2	A	0.3	A
Donahue St.*/Lockwood Street	3.5	A	3.5	A	3.5	A	3.5	A	5.4	B	5.8	B	3.9	A	4.2	A
Spear Avenue*/Lockwood Street	2.7	A	2.7	A	2.7	A	2.7	A	3.6	A	3.9	A	3.3	A	3.7	A
City and County of San Francisco Streets External to HPS Hunters Point Shipyard																
Evans Avenue*/Hunters Point Blvd.	6.0	B	8.0	B	6.0	B	8.0	B	12.7	B	23.5	C	13.7	B	15.3	C
Third Street/Evans Avenue	17.8	C	16.2	C	31.8	D	17.2	C	>60	F	>60	F	39.8	D	38.0	D
Third Street/Cargo Way	18.8	C	11.2	B	11.8	B	11.6	B	11.7	B	12.1	B	11.6	B	11.8	B
Third St /Cesar Chavez Street (1)	12.7	B	14.3	B	13.8	B	12.9	B	35.4	D	>60	F	34.7	D	>60	F
Cesar Chavez St./Evans Avenue	24.0	C	39.4	D	37.4	D	35.0	D	35.6	D	43.0	E	37.5	D	38.1	D
Evans Ave./Napolean & Tolano	6.8	B	6.7	B	6.4	B	6.5	B	13.5	B	26.2	D	7.6	B	9.6	B
Third Street/Carroll Avenue	5.9	B	5.9	B	5.7	B	5.8	B	6.0	B	6.1	B	5.8	B	6.0	B
Third Street/Gilman Avenue	11.7	B	9.7	B	11.2	B	9.5	B	11.3	B	9.7	B	11.2	B	9.6	B
Third Street/Palou Avenue	11.2	B	10.0	B	9.9	B	9.9	B	10.8	B	10.9	B	10.3	B	10.3	B

Notes:

*Unsignalized intersections: minor street movement delay and LOS.

sec/veh = seconds per vehicle

(1) Initial projections for the P.M. peak hour revised to LOS F to reflect the approval of the Third Street LRT and associated removal of one through lane in each direction along portions of Third Street.



P:\141-15 hp eir\eis\jan00 fig\141-15Impacted Int.fh8 01/29/00 dyu

Figure 4.1-1: Affected Intersections Under Proposed Reuse Plan Conditions

- Form an HPS Transportation Management Association (TMA) composed of the San Francisco Redevelopment Agency staff; City agency staff from the Public Transportation Commission, Parking and Traffic Commission, and the Department of Public Works; HPS property owners, lessees and residents; and Bayview-Hunters Point community members to implement a Transportation System Management Plan (TSMP). The initial TMA group would be appointed by the Mayor for an 18-month term and would report to the San Francisco Redevelopment Agency Commission. As part of the development of the TSMP, the initial TMA would recommend procedures to the Commission for future appointments to the TMA. The TMA would have no funding authority, but would develop a proposed TSMP for adoption by the San Francisco Redevelopment Agency. The TSMP would identify funding needs, recommend potential funding sources, and develop a phasing schedule consistent with the redevelopment phasing plan for implementation of identified measures. The TMA would monitor the effectiveness of the mitigation measures and the TSMP for the San Francisco Redevelopment Agency. The TMA would provide an annual report to the San Francisco Redevelopment Agency on the status of the TSMP implementation.

  The TSMP envisions a phased approach to development of transit improvements at HPS, under which some development would proceed, transit services would be expanded, additional development would proceed, additional services would be provided, etc. Thus, land and transit development would be interrelated, and development would provide the funding mechanism and ridership for transit, while the provision of transit would allow for more development. It is anticipated that at any time in the development process, transit service would meet the demand for existing residents and employees of HPS.

- Prepare a TSMP, which would contain the following elements:

  ◊ *Transit Pass Sales.* Establish a convenient location or locations within the boundaries of HPS for selling transit passes.

  ◊ *Transit, Pedestrian, and Bicycle Information.* Provide maps of local pedestrian and bicycle routes, transit stops and routes, and other information, including bicycle commuter information, on signs and kiosks in occupied areas of HPS. Provide rideshare information and services through RIDES or an equivalent program.

  ◊ *Employee Transit Subsidies.* Require major employers to use a transit subsidy system (e.g., through the Commuter Check Program) for their employees by incorporating transit subsidy requirements in the agreements between the San Francisco Redevelopment Agency and developers. The TMA would identify major employers, recommend transit subsidy programs, and identify transit subsidy systems to provide employers with incentives to hire local employees as a way of reducing vehicle miles traveled.

- ◊ *Expand Transit Services and Monitor Transit Demand.* Monitor transit demand at HPS on an annual basis and implement services identified in the *Hunters Point Shipyard Transportation Plan* to stimulate transit ridership or respond to transit demand. Develop a phasing plan for implementation of transit improvements designed to meet or exceed demand. Reevaluate transit demand and implement required improvements on an annual basis thereafter, and curtail all project development until required services are funded and implemented, if necessary, to prevent an imbalance between transit demand and services.

- ◊ *Secure Bicycle Parking.* Require provisions for secured Class I bicycle parking spaces in parking lots and parking garages of residential buildings and research and development facilities. This secured bicycle parking is to be in amounts required by the San Francisco Planning Code, Article 1.5, Section 155. Require major employers and large employment sites occupied by many employers to provide clothing lockers and showers for bicyclists. Develop a program to make bicycles available to the public for travel within HPS.

- ◊ *Parking Management Guidelines.* Establish mandatory parking management policies for the private operators of parking facilities in HPS to discourage long-term parking. Set aside desirable parking areas for rideshare vehicles and alternative fuel vehicles.

- ◊ *Flexible Work Time/Telecommuting.* Where feasible, offer HPS employees the opportunity to work on flexible schedules and/or telecommute so they can avoid peak hour traffic conditions.

- ◊ *Shuttle Service.* Require shuttle service to serve all redeveloped portions of HPS either through the provision of shuttle service by developers, large employers, or another entity or entities. The shuttle service would operate between HPS and regional transit stops in San Francisco (e.g., MUNI, Third Street LRT, Bay Area Rapid Transit (BART), California Train (CalTrain), Transbay transit terminal, and ferry terminal). Consider use of alternative fuel vehicles for the shuttle service.

- ◊ *Monitoring of Physical Transportation Improvements.* Monitor physical transportation improvements, such as street repaving and resurfacing and installation of street lighting, and ensure that planned improvements are implemented when necessary to meet the needs of new residents and employees.

◊ *Ferry Service.* Assist the Port of San Francisco and others in ongoing studies of the feasibility of expanding regional ferry service. Assist in implementing feasible study recommendations (if any) related to HPS service.

◊ *Local Hiring Practices.* Require the TMA to set a goal to reduce traffic impacts by hiring local workers who reside in the Bayview-Hunters Point neighborhood to fill new jobs at HPS. Require compliance with existing San Francisco Redevelopment Agency local hiring requirements and the City's "First Source" hiring program. Monitor local hiring on an annual basis to evaluate whether the goal is being met and adjust the program as necessary.

Significant and Mitigable Impacts

Impact 1: Increased Traffic at Third Street/Evans Avenue Intersection (Factor 1). Operation of the signalized Third Street/Evans Avenue intersection would worsen in both the A.M. and P.M. peak hours from LOS C to LOS F by 2010. The addition of project-related traffic would contribute to long delays (i.e., over 60 seconds/vehicle) at this intersection (see Table 4.1-2, T[illegible] 4.1-3, and Figure 4.1-1). This would be considered a significant and mitigable imp[illegible]

By 2025, approximately 28 percent of the total traffic at this intersection would be during the A.M. peak hour and 30 percent during the P.M. peak hour. The intersection would operate at LOS F during both the A.M. and P.M. peak hours. This would be a significant and mitigable impact.

Mitigation 1. Eliminate the southbound left-turn lane and re-route turns via Phelps Street to Evans Street. Signalize the Phelps/Evans intersection and remove parking along Phelps and Evans Streets. This would reduce traffic impacts at this intersection from LOS F to LOS D in the A.M. and P.M. peak hours. In addition, adopt a transportation system management approach as described under the Significant Unmitigable Impact. Implementing these measures would reduce this impact to a less than significant level.

Impact 2: Increased Traffic at Evans Avenue/Cesar Chavez Street Intersection (Factor 1). Operation of the signalized Evans Avenue/Cesar Chavez Street intersection would worsen in the P.M. peak hour from LOS D to LOS E by 2025. This would be a significant impact. The addition of project-related traffic would increase delays at this intersection from 39.4 seconds per vehicle to 43.0 seconds per vehicle.

Mitigation 2. To improve operations and reduce delays at this intersection, restripe the existing northbound shared left/right-turn lane on Evans Avenue to create exclusive left-turn and right-turn lanes. Widen the Evans Avenue northbound approach at Cesar Chavez Street. The southeast corner curb return would require structural modifications of the existing viaduct. Change the existing signal timing plan to include the exclusive left-turn and right-turn lanes. These mitigation measures would reduce traffic impacts at this intersection from LOS E to LOS C during the P.M. peak hour, with delays reduced from 43.0 to 18.3 seconds.

In addition, form an HPS TMA and prepare and implement a TSMP, as described under the Significant Unmitigable Impact. Implementing these measures would reduce this impact to a less than significant level.

Impact 3: Increased Demand on Public Transportation Exceeding Planned or Anticipated Capacity (Factor 3). The project would not significantly affect CalTrain or any other rail service in the ROI. However, MUNI service would be affected. HPS is currently serviced by the #19 Polk line, which runs at 10-minute intervals between 7:00 A.M. and 9:00 A.M. and then at 15-minute intervals until 7:42 P.M. (the last bus). This means the Polk line stops at HPS about 55 times per day. The ridership on this line in the HPS vicinity is very light. Estimated project transit trips under HPS reuse for the P.M. peak hour are shown in Table 4.1-4. Although transportation planning has been done for HPS in the *Hunters Point Shipyard Transportation Plan* (San Francisco Redevelopment Agency, 1996), there are no formally adopted plans to provide transit service to HPS at this time. Therefore, the projected increase in demand for City public transportation (MUNI) is a significant impact.

Mitigation 3. Monitor transit demand at HPS on an annual basis and ensure that adequate transit service is provided to meet or exceed demand, as required by the TSMP described under the Significant Unmitigable Impact. Implementing these measures would reduce this impact to a less than significant level.

TABLE 4.1-4: PROJECT TRANSIT TRIPS

SCENARIO	P.M. PEAK HOUR					
	MUNI		CALTRAIN		BART	
	IN BOUND	OUT BOUND	IN BOUND	OUT BOUND	IN BOUND	OUT BOUND
Proposed Reuse Plan						
Year 2010	426	334	64	50	59	46
Year 2025	504	546	76	82	69	75
Reduced Development Alternative						
Year 2010	118	133	18	20	16	18
Year 2025	160	230	24	35	22	32

Notes:

* All regional transit (CalTrain, BART) trips to and from HPS require a transfer to/from MUNI and are included in MUNI inbound and outbound trips.

Impact 4: Increased Demand for Pedestrian and Bicycle Facilities Exceeding Planned or Anticipated Capacities (Factor 3). Pedestrian and bicycle activity at HPS would be generated under the Proposed Reuse Plan. Until facilities are constructed, the increase in activity may not be accommodated. This is a significant impact.

Mitigation 4. Require planning and implementation of pedestrian and bicycle facilities as part of development. Monitor and ensure completion of these facilities as part of the TSMP described under the significant unmitigable impact above. Implementing these measures would reduce this impact to a less than significant level.

Less Than Significant Impacts

Increased Traffic at Other Intersections (Factor 1). The Proposed Reuse Plan would result in a less than significant increase in the number of vehicles on HPS roadways and adjacent roadways that could affect the operating conditions of other intersections throughout the South Bayshore area and within HPS. As indicated on Tables 4.1-2 and 4.1-3, these intersections would continue to operate at acceptable levels of service (LOS D or better) with the addition of traffic generated by proposed reuse. No mitigation is required.

Increased Traffic on Freeways and Ramps (Factor 4). Less than significant project impacts on three freeway locations (U.S. Highway 101 [U.S. 101] at the San Mateo county line, Interstate 280 [I-280] south of U.S. 101, and Interstate 80 [I-80]/San Francisco–Oakland Bay Bridge [Bay Bridge]) would result from increased traffic volumes and volume-to-capacity (v/c) ratios under the Proposed Reuse Plan (see Table 4.1-5). However, 2010 Bay Bridge westbound A.M. peak traffic would approach a v/c of 1.0 (0.97). By 2025, the Bay Bridge eastbound A.M. and P.M. peak traffic would also approach a v/c of 1.0. Because the v/c ratio would not exceed 1.0, project impacts would be less than significant. No mitigation is required.

Less than significant project impacts on the 11 freeway ramp locations analyzed within the South Bayshore area would result from increased traffic volumes and v/c ratios under the Proposed Reuse Plan (see Tables 4.1-6 and 4.1-7). Ramps that would experience the greatest increase in traffic volumes as a result of the Proposed Reuse Plan are the I-280 northbound off-ramp to Cesar Chavez Street, the U.S. 101 northbound off-ramp to Bayshore Boulevard/Cesar Chavez Street, and the I-280 northbound on-ramp from Indiana Street. As Tables 4.1-6 and 4.1-7 indicate, all study ramps would operate at under capacity (i.e., v/c ratio less than 1.0) in 2010 and 2025. No mitigation is required.

Increased Truck Traffic (Factor 5). The Proposed Reuse Plan would result in an increase in the number of trucks traveling to and from HPS. Using conservative assumptions of

TABLE 4.1-5: FREEWAY VOLUME-TO-CAPACITY RATIOS

SCREENLINE LOCATION	DIRECTION	EXISTING 1993 CONDITIONS				2010 BASELINE (NO ACTION ALTERNATIVE)				2010 CONDITIONS (4)			
		A.M. PEAK		P.M. PEAK		A.M. PEAK		P.M. PEAK		A.M. PEAK		P.M. PEAK	
		VOLUME	V/C RATIO	VOLUME	V/C RATIO	VOLUME	V/C RATIO	VOLUME	V/C RATIO	VOLUME	V/C RATIO	VOLUME	V/C RATIO
U.S. 101, at the San Francisco County Line (1)	Northbound	6,400	0.70	6,350	0.69	6,490	0.71	6,400	0.70	6,590	0.72	6,540	0.71
	Southbound	7,050	0.77	6,250	0.68	7,150	0.78	6,330	0.69	7,260	0.79	6,440	0.70
San Francisco/Oakland Bay Bridge (2)	Eastbound	7,910	0.69	9,190	0.80	9,670	0.84	9,910	0.86	9,730	0.85	9,970	0.87
	Westbound	10,500	0.91	8,230	0.72	11,070	0.96	9,270	0.81	11,130	0.97	9,340	0.81
I-280, south of U.S. 101 (3)	Northbound	7,500	0.82	3,950	0.43	7,610	0.83	3,950	0.43	7,730	0.84	4,070	0.44
	Southbound	3,350	0.36	8,300	0.90	3,350	0.36	8,430	0.92	3,450	0.38	8,550	0.93

SCREENLINE LOCATION	DIRECTION	2025 BASELINE (NO ACTION ALTERNATIVE)				2025 CONDITIONS (4)			
		A.M. PEAK		P.M. PEAK		A.M. PEAK		P.M. PEAK	
		VOLUME	V/C RATIO	VOLUME	V/C RATIO	VOLUME	V/C RATIO	VOLUME	V/C RATIO
U.S. 101, at the San Francisco County Line (1)	Northbound	6,540	0.71	6,490	0.71	6,720	0.73	6,670	0.72
	Southbound	7,260	0.79	6,370	0.69	7,400	0.80	6,560	0.71
San Francisco/Oakland Bay Bridge (2)	Eastbound	11,390	0.99	10,650	0.93	11,470	1.0	10,750	0.93
	Westbound	11,030	0.96	10,350	0.90	11,130	0.97	10,450	0.91
I-280, south of U.S. 101 (3)	Northbound	7,670	0.83	3,950	0.43	7,880	0.86	4,150	0.45
	Southbound	3,350	0.36	8,500	0.92	3,520	0.38	8,710	0.95

Source: San Francisco Redevelopment Agency, 1996.

Notes:

(1) = California Department of Transportation (Caltrans) traffic volumes, July 1993.
(2) = Alternatives to Replacement of the Embarcadero Freeway and the Terminal Separator Structure (City and County of San Francisco, Planning Department, 1996c).
(3) = Caltrans traffic volumes, August 1993.
(4) = With additional future development projects, including the proposed Candlestick Point Stadium and Retail/Entertainment Center and intensive development on the Brisbane Baylands parcels, the v/c ratios at the county line along U.S. 101 (northbound and southbound) and I-280 southbound would reach or exceed 1.0 during the P.M. peak hour.

TABLE 4.1-6: RAMP VOLUME-TO-CAPACITY RATIOS—YEAR 2010

FRWY	ON-/OFF-RAMP		EXISTING 1993 CONDITIONS				2010 BASELINE (NO ACTION ALTERNATIVE)				PROPOSED REUSE PLAN (1)				REDUCED DEVELOPMENT ALTERNATIVE (1)			
			A.M. PEAK HOUR		P.M. PEAK HOUR		A.M. PEAK HOUR		P.M. PEAK HOUR		A.M. PEAK HOUR		P.M. PEAK HOUR		A.M. PEAK HOUR		P.M. PEAK HOUR	
			VOL	V/C	VOL	V/C	VOL	V/C	VOL	V/C	VOL	V/C	VOL	V/C	VOL	V/C	VOL	V/C
I-280	NB Off-ramp	to Cesar Chavez St.	525	0.31	335	0.20	540	0.32	345	0.20	700	0.41	565	0.33	610	0.36	410	0.24
	NB On-ramp	from Indiana St.	1,210	0.71	1,420	0.84	1,245	0.73	1,465	0.86	1,360	0.80	1,570	0.92	1,280	0.75	1,510	0.89
	SB Off-ramp	to Pennsylvania St.	560	0.33	800	0.47	575	0.34	825	0.48	675	0.40	960	0.56	620	0.36	865	0.51
U.S. 101	NB Off-ramp	to Bayshore Blvd./ Cesar Chavez St.	1,840	0.87	1,625	0.76	1,895	0.89	1,675	0.79	2,035	0.96	1,800	0.85	1,935	0.91	1,730	0.81
	NB On-ramp	from Bayshore Blvd. (Near Cesar Chavez St.)	1,155	0.68	690	0.41	1,185	0.70	715	0.42	1,255	0.74	780	0.46	1,210	0.71	740	0.44
	NB On-ramp	from Cesar Chavez St.	460	0.27	490	0.29	475	0.28	505	0.30	545	0.32	570	0.34	495	0.29	535	0.31
	SB Off-ramp	to Cesar Chavez St.	750	0.44	200	0.12	775	0.45	205	0.12	835	0.49	290	0.17	800	0.47	230	0.14
	NB Off-ramp	to Third St./ Bayshore Blvd.	1,875	0.88	860	0.40	1,930	0.91	885	0.42	1,985	0.94	960	0.45	1,955	0.92	910	0.43
	NB On-ramp	from Third St./ Bayshore Blvd.	620	0.36	490	0.29	640	0.38	505	0.30	685	0.40	565	0.33	660	0.39	525	0.31
	SB Off-ramp	to Bayshore Blvd./ Third St.	735	0.43	715	0.42	755	0.45	735	0.43	810	0.48	785	0.46	770	0.45	755	0.45
	SB On-ramp	from Bayshore Blvd./ Third St.	710	0.42	1,460	0.86	730	0.43	1,504	0.88	795	0.47	1,565	0.92	750	0.44	1,530	0.90

Notes:

(1) These volumes do not include potential traffic generated by the Candlestick Point Stadium Retail/Entertainment Center project.

NB = northbound

SB = southbound

v/c = volume-to-capacity ratio

vol = volume

TABLE 4.1-7: RAMP VOLUME-TO-CAPACITY RATIO—YEAR 2025

FRWY	ON-/OFF-RAMP		EXISTING 1993 CONDITIONS				2025 BASELINE (NO ACTION ALTERNATIVE)				PROPOSED REUSE PLAN (1)				REDUCED DEVELOPMENT ALTERNATIVE (1)			
			A.M. PEAK HOUR		P.M. PEAK HOUR		A.M. PEAK HOUR		P.M. PEAK HOUR		A.M. PEAK HOUR		P.M. PEAK HOUR		A.M. PEAK HOUR		P.M. PEAK HOUR	
			VOL	V/C	VOL	V/C	VOL	V/C	VOL	V/C	VOL	V/C	VOL	V/C	VOL	V/C	VOL	V/C
I-280	NB Off-ramp	to Cesar Chavez St.	525	0.31	335	0.20	550	0.32	355	0.21	835	0.49	635	0.37	675	0.40	450	0.27
	NB On-ramp	from Indiana St.	1,210	0.71	1,420	0.84	1,270	0.75	1,490	0.88	1,400	0.83	1,680	0.99	1,320	0.78	1,580	0.93
	SB Off-ramp	to Pennsylvania St.	560	0.33	800	0.47	590	0.35	840	0.49	765	0.45	1,015	0.60	665	0.39	900	0.53
U.S. 101	NB Off-ramp	to Bayshore Blvd./ Cesar Chavez St.	1,840	0.87	1,625	0.76	1,915	0.91	1,700	0.80	2,115	0.99	1,945	0.92	1,990	0.94	1,815	0.86
	NB On-ramp	from Bayshore Blvd. (Near Cesar Chavez St.)	1,155	0.68	690	0.41	1,210	0.71	725	0.43	1,300	0.76	845	0.50	1,240	0.73	780	0.46
	NB On-ramp	from Cesar Chavez St.	460	0.27	490	0.29	485	0.28	515	0.30	570	0.34	630	0.70	510	0.30	570	0.33
	SB Off-ramp	to Cesar Chavez St.	750	0.44	200	0.12	790	0.46	210	0.12	895	0.53	315	0.19	835	0.49	245	0.15
	NB Off-ramp	to Third St./ Bayshore Blvd.	1,875	0.88	860	0.40	1,970	0.93	905	0.42	2,070	0.98	1,000	0.47	2,010	0.95	935	0.44
	NB On-ramp	from Third St./ Bayshore Blvd.	620	0.36	490	0.29	650	0.38	515	0.30	730	0.49	595	0.35	685	0.40	545	0.32
	SB Off-ramp	to Bayshore Blvd./ Third St.	735	0.43	715	0.42	770	0.45	750	0.44	840	0.49	837	0.49	795	0.47	790	0.47
	SB On-ramp	from Bayshore Blvd./ Third St.	710	0.42	1,460	0.86	745	0.44	1,535	0.90	830	0.47	1,640	0.96	775	0.46	1,580	0.93

Notes:

(1) These volumes do not include potential traffic generated by the Candlestick Point Retail/Entertainment Center Project.

NB = northbound

SB = southbound

v/c = volume-to-capacity ratio

vol = volume

high truck use, the Proposed Reuse Plan would generate 80 trucks during the A.M. peak hour and 50 trucks during the P.M. peak hour in 2010. In 2025, the Proposed Reuse Plan would generate 180 trucks during the A.M. peak hour and 110 trucks during the P.M. peak hour (Appendix B, Table B-11). These trucks would exit the South Gate and use existing truck routes (Griffith, Shaffer, Howes, Thomas, Ingalls, Carol Avenue, and Third Street) (See Figure 3.1-4). This amount of truck traffic could be accommodated within the capacity of the surrounding street system and therefore would not be considered significant. An increase in truck traffic could increase the potential for auto-truck conflicts, however, and could be perceived as unwanted by neighborhood residents. This potential could be minimized by directing truck traffic along designated traffic routes, such as those shown on Figure 4.1-2, and along new truck routes, should those be established. (For example, construction of the Yosemite Slough Bridge, described in Section 3.1, could help divert trucks away from residential areas and towards the south and U.S. 101.) No mitigation is required.

Reduced Development Alternative

Significant Unmitigable Impact

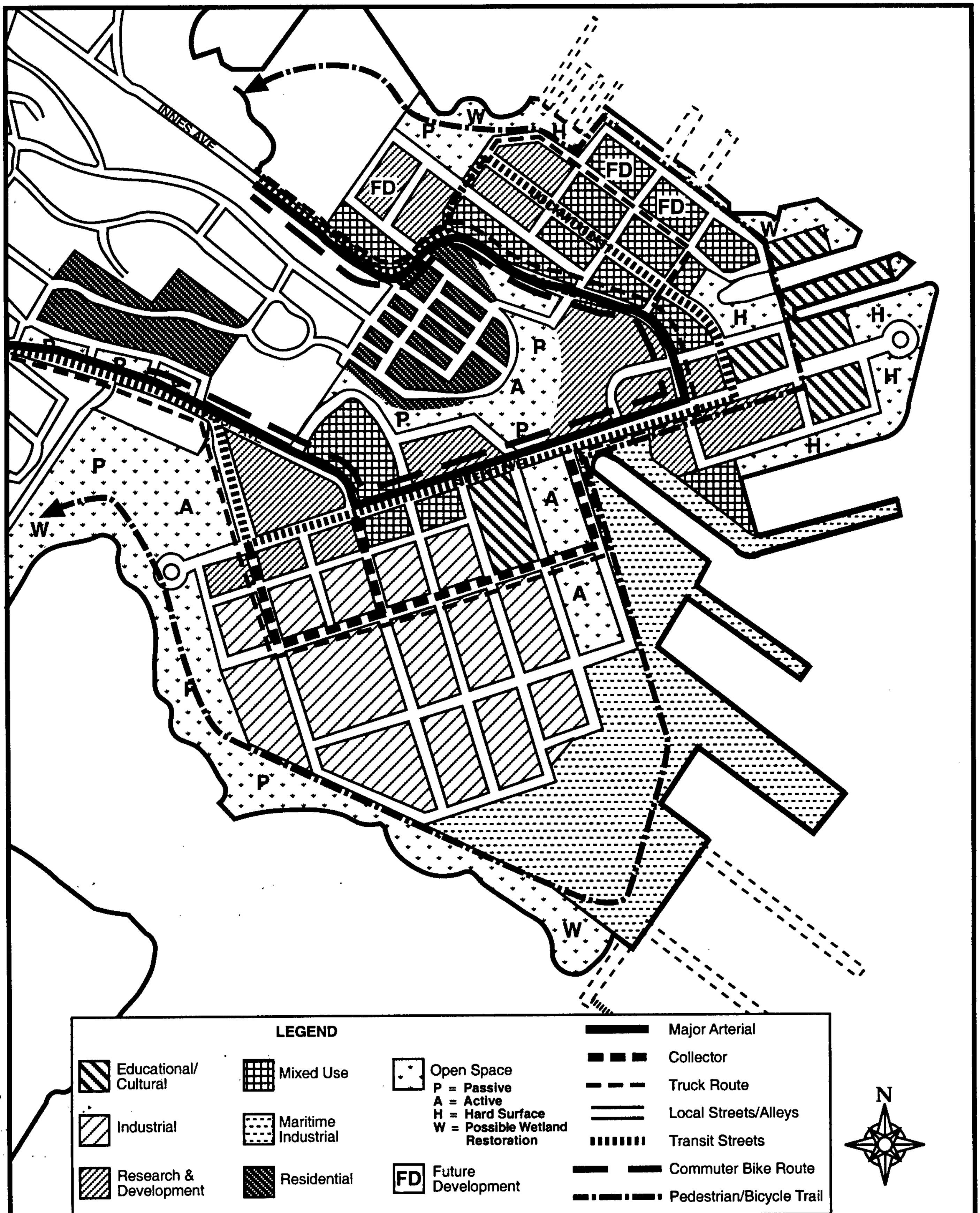
Increased Traffic at Third Street/Cesar Chavez Street Intersection (Factor 1). Under the Reduced Development Alternative, operation of the signalized Third Street/Cesar Chavez Street intersection would worsen in the P.M. peak hour from LOS B to LOS F by 2010. The addition of project-related traffic would contribute to long delays (i.e., over 60 seconds per vehicle) at this intersection. This is considered a significant impact. The TDM mitigation measures listed under the Proposed Reuse Plan, Significant Unmitigable Impact, would reduce but not eliminate, traffic congestion at this intersection, which would remain significant.

Less Than Significant Impacts

Increased Traffic at Third Street/Evans Avenue Intersection (Factor 1). Under the Reduced Development Alternative, increased traffic at Third Street/Evans Avenue would result in a less than significant impact. Tables 4.1-2 and 4.1-3 show that this intersection would operate at LOS D. No mitigation is required.

Increased Traffic at Evans Avenue/Cesar Chavez Street Intersection (Factor 1). Under the Reduced Development Alternative, increased traffic at Evans Avenue/Cesar Chavez Street would result in a less than significant impact. Tables 4.1-2 and 4.1-3 show that this intersection would operate at LOS C. No mitigation is required.

Increased Demand on Public Transportation Exceeding Planned or Anticipated Capacity (Factor 2). Under the Reduced Development Alternative, increased demand for public transportation would be substantially less than that projected under the Proposed Reuse



Source: San Francisco Planning Dept and Redevelopment Agency, 1997 and Korve Engineering, 1996.

Prod/141-15 HP EIR/EIS/HP Figures 98/141-15F Routes 6/9/99 JL

Figure 4.1-2: Proposed Transportation Routes Within the Project Site

Plan (see Table 4.1-4). It would not significantly affect either City (MUNI) service, Caltrain Service, or any other rail service in the ROI. No mitigation is required.

Increased Demand for Pedestrian and Bicycle Facilities Exceeding Planned or Anticipated Capacities (Factor 3). Under the Reduced Development Alternative, increased demand for pedestrian and bicycle facilities would be less than under the Proposed Reuse Plan and would result in a less than significant impact, although the TSMP should be expanded to include monitoring demand for and implementation of pedestrian and bicycle facilities. No additional mitigation is required.

Increased Traffic at Other Intersections (Factor 1). Under the Reduced Development Alternative, all other study intersections would operate at LOS C or better, resulting in less than significant impacts (Tables 4.1-2 and 4.1-3). No mitigation is required.

Increased Traffic on Freeways and Ramps (Factor 4). Under the Reduced Development Alternative, as with the Proposed Reuse Plan, increased project traffic on nearby freeway segments and ramps would result in less than significant impacts. As shown in Tables 4.1-6 and 4.1-7, all 11 study ramps would operate at less than capacity conditions. No mitigation is required.

Increased Truck Traffic (Factor 5). Under the Reduced Development Alternative, there would be an increase in the number of trucks traveling to and from HPS. However, compared to the Proposed Reuse Plan, there would be about 50 percent fewer truck trips. Under the Reduced Development Alternative, a total of 40 trucks during the A.M. peak hour and 20 trucks during the P.M. peak hour would be generated in 2010. In 2025, 80 trucks would be generated during the A.M. peak hour and 50 trucks during the P.M. peak hour. No mitigation is required.

The Reduced Development Alternative also would result in a temporary demand for loading/unloading spaces for trucks traveling into HPS. This potential impact could be minimized to a less than significant level by directing truck traffic along designated truck traffic routes, such as those shown on Figure 4.1-2. No mitigation is required.

4.1.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. No impacts related to transportation, traffic, and circulation are anticipated, and no mitigation is required.

4.2 AIR QUALITY

The ROI for air quality varies with the type of air pollutant under discussion. Pollutants that are directly emitted (such as carbon monoxide and some particulate matter) have a localized ROI generally restricted to areas in the immediate vicinity of the emission source. Pollutants produced by chemical reactions in the atmosphere (such as ozone and secondary pollutant matter) have an ROI that includes the entire San Francisco Bay Area.

Factors considered in determining whether an alternative would have a significant air quality impact include the extent or degree to which its implementation would 1) cause violations of Federal or state ambient air quality standards at locations that do not currently experience such violations; 2) increase the magnitude or frequency of existing or anticipated future violations of Federal or state ambient air quality standards; 3) increase the exposure of the general public to concentrations of hazardous air pollutants that represent a significant health risk; or 4) conflict with or obstruct implementation of applicable air quality attainment plans.

Information on the air analysis methodology and assumptions is provided in Appendix B. Note that the vehicle emissions analysis assumes a substantial amount of ridesharing, transit use, and nonvehicular travel modes, which would be met by implementing the TDM mitigation strategy outlined in Section 4.1. Major features of the mitigation strategy include the following:

- Form an HPS TMA, which would include property owners, tenants, neighborhood representatives, and City/San Francisco Redevelopment Agency staff.
- Prepare a TSMP containing the following elements: provisions for convenient transit pass sales; transit, bicycle, and pedestrian information; employee transit subsidies; transit demand monitoring and required service expansions; secure bicycle parking; parking management guidelines; flexible work time/ telecommuting; shuttle service; monitoring of physical transportation improvements; ferry service; and local hiring practices.
- Make a good faith effort to assist the Port of San Francisco and others in ongoing studies to examine the feasibility of expanding regional ferry service.
- Encourage local hiring practices to fill new jobs at HPS.

In addition, to further reduce significant air emissions to the extent feasible, the Redevelopment Agency Commission intends to identify the potential costs associated with the following measures and implement those measures that are determined feasible in light of identified costs, available funding, and potentially competing community objectives:

- Retrofit buses serving HPS with compressed natural gas engines or ensure that bus service to HPS is via electric coaches.
- Provide incentives (i.e., discounts or matching funds) or give priority to tenants or developers who undertake emission reduction projects aimed at mobile source emissions.
- Require tenants and developers to use engines meeting low-emission standards that are more stringent than required by the California Air Resources Board (CARB).
- Provide or require provision of infrastructure to support alternative fuel vehicles, along with preferential parking for alternative-fueled vehicles and free on-site fuel and power.

4.2.1 Navy Disposal

The disposal of Federal property at HPS out of Federal ownership would not result in any direct air quality impacts.

Transfers of ownership, interests and titles to real or personal property to other public agencies or to private parties are exempt from Clean Air Act (CAA) conformity determination requirements, Title 40 of the Code of Federal Regulations (C.F.R.) § 93.153(c)(xiv) (1998); 40 C.F.R. § 93.153(c)(xix) (1998); 40 C.F.R. § 93.153(c)(xx) (1998). Navy's Record of Non-Applicability (RONA) is included in Appendix B. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.2.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

Less Than Significant Impacts

Ozone Precursor Emissions from Increased Traffic (Factors 1 and 2). By providing for increased employment and housing, the Proposed Reuse Plan would result in increased vehicle travel, as described in Section 4.1.

Vehicle travel associated with the Proposed Reuse Plan would result in an increase in ozone precursor emissions . However, the increased emissions are not expected to lead to additional violations of ambient air quality standards for ozone.

The 1997 Clean Air Plan (CAP) for the San Francisco Bay Area estimates that regional emissions in 2003 (the last year for which a projection is available) would be 820,000 pounds (372,000 kilograms [kg]) per day of reactive organic compounds and 982,000 pounds (445,000 kg) per day of nitrogen oxides [NO_x]. The addition of less than 210 pounds (95 kg) per day of either ozone precursor by 2010 (and less than 321 pounds [146 kg] per day by 2025) under the Proposed Reuse Plan (Table 4.2-1) would not cause a measurable change in the location, magnitude, or frequency of high ozone concentrations. No mitigation is required.

PM_{10} Emissions from Increased Traffic (Factors 1 and 2). Vehicle travel associated with the Proposed Reuse Plan would result in an increase in traffic-related inhalable particulate matter (PM_{10}) for the Proposed Reuse Plan at 2010 and 2025 (Table 4.2-1). The 1997 CAP for the San Francisco Bay Area estimates that regional emissions in 2003 (the last year for which a projection is available) would be more than 400,000 pounds (181,000 kg) per day for PM_{10}. The addition of less than 265 pounds (120 kg) per day in 2010 (and about 451 pounds [205 kg] a day in 2025) would not cause a measurable change in the location, magnitude, or frequency of high PM_{10} concentrations. Consequently, the change in land use and vehicle travel patterns resulting from build-out of the Proposed Reuse Plan would not lead to additional violations of ambient air quality standards for PM_{10}. No mitigation is required.

Toxic Air Contaminants from Stationary, Mobile, and Cumulative Sources (Factor 3). Toxic air contaminant emissions could be generated under the Proposed Reuse Plan from several stationary sources, such as research uses, boilers and emergency generators, and industrial and retail uses. Because the precise nature of these stationary sources has not been determined, their emissions cannot be effectively estimated. Vehicle trips generated under the Proposed Reuse Plan would cause motor vehicle exhaust and evaporative emissions, known mobile sources of toxic air contaminants. There is no standard for evaluating the significance of mobile source emissions of toxic air contaminants. In addition, there are no accepted standards to assess cumulative toxic air emission impacts of all potential stationary and mobile sources of toxic air emissions related to the Proposed Reuse Plan. However, all toxic air contaminant sources would likely contribute to ambient conditions in the Bay Area.

The Bay Area Air Quality Management District (BAAQMD) considers toxic air contaminant emissions from an individual stationary source to be significant if the health risk to a maximally exposed individual would exceed a cancer risk of 10 in 1 million or U.S. Environmental Protection Agency (U.S. EPA) guidance levels for noncarcinogenic toxic air contaminants. In analyzing health risks from individual facilities, BAAQMD does not require the applicant to submit information that considers emissions from surrounding facilities. BAAQMD does consider potential cumulative effects from toxic emissions, using information from their toxic air monitoring network. Cumulative emissions from multiple facilities could exceed the acceptable exposure level for an individual facility.

TABLE 4.2-1: SUMMARY OF EMISSIONS FROM VEHICLE TRAVEL ASSOCIATED WITH THE PROPOSED REUSE PLAN

Land Use	Amount of Development	Daily Vehicle Trips *	Daily VMT Estimate	Average Summer Weekday Traffic-related Ozone Precursor Emissions (pounds per day)		Average Weekday Exhaust Plus Tire Wear PM_{10} Emissions (pounds per day)	Average Weekday Traffic-related Carbon Monoxide Emissions (pounds per day)	
				ROC	NOx		Summer	Winter
DEVELOPMENT PATTERN FOR 2010								
SF and Duplex	800 UNITS	3,218	33,861	28.0	43.1	67.3	327.2	371.5
Live/Work	307 UNITS	926	9,507	7.8	12.1	18.9	91.8	104.2
Above Commercial	500 UNITS	1,508	15,466	12.7	19.7	30.7	149.3	169.4
R&D	65,200 SQ FT	370	4,158	3.4	6.7	8.4	39.4	44.5
Industrial	564,000 SQ FT	1,944	21,939	20.8	55.7	47.0	217.9	244.8
Mixed Use	263,500 SQ FT	2,989	27,613	21.8	43.2	55.7	259.2	292.2
Cultural/Educational	301,000 SQ FT	977	10,236	8.4	16.0	20.7	95.6	107.5
Cultural	33,500 SQ FT	297	3,119	2.3	4.9	6.2	29.1	32.8
Open Space	46.5 ACRES	457	4,738	3.4	6.1	9.4	43.3	48.7
Total		12,686	130,637	**108.6**	**207.6**	**264.3**	1,252.9	1,415.6
Exceedance				**28.6**	**127.6**	**184.3**		
DEVELOPMENT PATTERN FOR 2025								
SF and Duplex	800 UNITS	3,218	33,861	19.4	36.8	67.3	248.6	261.1
Live/Work	500 UNITS	1,508	15,466	8.8	16.8	30.7	113.6	119.0
Above Commercial	500 UNITS	1,508	15,466	8.8	16.8	30.7	113.6	119.0
R&D	311,600 SQ FT	1,630	18,319	11.0	26.0	37.0	133.6	139.7
Industrial	1,135,000 SQ FT	3,212	36,250	26.7	85.5	77.5	283.3	296.2
Mixed Use	650,000 SQ FT	7,373	68,113	38.0	93.7	137.2	496.5	510.6
Cultural/Educational	459,500 SQ FT	1,489	15,583	9.2	21.4	31.4	112.4	116.0
Cultural	95,500 SQ FT	828	8,665	4.5	11.9	17.5	62.5	64.5
Open Space	141.5 ACRES	1,066	11,041	5.4	12.0	21.9	77.0	79.1
Total		21,832	222,764	**131.9**	**320.9**	**451.2**	1,641.1	1,705.2
Exceedance				**51.9**	**240.9**	**371.2**		

Notes: VMT = vehicle miles traveled. ROC = reactive organic compounds. NO_x = nitrogen oxides. CO = carbon monoxide. PM_{10} = inhalable particulate matter.

Net trip generation reflects adjustments for transit use, nonvehicular modes, transportation control programs, and internal trips between reuse plan land uses. Vehicle emission rates have been derived from the EMFAC7F vehicle emission rate model using a mix of trip types, trip distances and speeds, vehicle operating modes, and vehicle types. Emission rates for home-based trip types reflect a vehicle mix with 1 percent heavy trucks. Emission rates for other trip types reflect a heavy truck fraction appropriate for the land use (7.2 percent for commercial uses, 17.5 percent for industrial uses, and 1 percent for open space). See Appendix B-Air Quality for complete methodology and assumptions.

Bold numbers indicate an exceedance of significance thresholds (80 pounds [36 kg] a day for ROC, NO_x, and PM_{10}).

* Total daily vehicles trips are the ratio of total daily person trips (DPT) and total daily vehicle trips (DVT) (see Table 4.1-1). For this project the ratio is 100:37/DPT:DVT.

PM_{10} emissions include a reintrained roadway dust component based on the BAAQMD recommended factor of 1.52 lbs/1,000 VMT (0.69 g/VMT).

At this time, there is not sufficient information to evaluate the significance of stationary source emissions from future individual projects. Future air permit review (for both construction and operation) required by the BAAQMD would determine the significance of these potential impacts and could require new stationary sources to adopt specific mitigations as a condition for new permits. Toxic air contaminant emissions from new stationary sources are limited through an air toxics new source review program. These analyses help to establish buffer zones around proposed new uses.

To reduce toxic air contaminant emissions from stationary sources, the San Francisco Redevelopment Agency has committed to requiring all potential stationary sources of toxic air contaminants allowed at HPS to be evaluated and permitted as one facility. New potential stationary sources would only be allowed if the estimated incremental toxic air contaminant health risk from all stationary sources at HPS were consistent with BAAQMD significance criteria for an individual facility. These criteria require that, for the maximally exposed individual, the estimated incremental health risk from toxic air contaminants not exceed 10 in 1 million for carcinogens or U.S. EPA's guidance levels for noncarcinogens. Reformulating gasoline and diesel fuel are projected to reduce toxic air contaminants from mobile sources. Also, the trip reduction measures discussed under ozone precursor and PM_{10} emissions from increased traffic would further reduce toxic air contaminant emissions.

Evaluation of potential impacts attributable to toxic air contaminant emissions from stationary sources would be speculative because no specific types or sizes of stationary sources have been proposed, BAAQMD regulates toxic air contaminants from stationary sources, and there is a high degree of uncertainty concerning possible effects on the environment.

Exposure to toxic air contaminant emissions from mobile sources would be roughly proportional to traffic volumes on the area roadway network. The further away from high-volume traffic arteries, the lower the exposure to all mobile source emissions. Reuse of HPS would not result in traffic volumes on the local roadway network that would be unusually high in comparison to traffic volumes on comparable types of roadways elsewhere in the urbanized portions of the Bay Area. Furthermore, the BAAQMD's Impact Assessment Guidelines (BAAQMD, 1996) do not include a requirement for including mobile sources of toxic air contaminants when evaluating impacts. Therefore, exposure to toxic air contaminant emissions from mobile sources is considered less than significant.

Airborne Dust from Construction and Demolition (Factor 1). Building demolition, renovation, and construction activities have the potential for generating dust. Construction, renovation, and demolition activities under the Proposed Reuse Plan would occur incrementally over an extended build-out period, making it impossible to estimate specific numbers for any particular year. Buildings proposed for demolition would be remediated as described in Section 4.7, Hazardous Materials and Waste, prior to demolition activities.

Development is expected to occur in phases. Each phase would include some demolition and construction activities and would lead to additional employment and/or housing development. In this way, construction and demolition activities at HPS are expected to occur incrementally, and the inconveniences and impacts associated with construction would be spread out in terms of time and location.

BAAQMD officials consider PM_{10} emissions from construction sites to be potentially significant. They recommend focusing effort on developing effective and comprehensive PM_{10} control measures rather than detailed emissions quantification, primarily because the mitigation measures, if adopted, would reduce temporary construction PM_{10} impacts to a less than significant level, and therefore monitoring would not be required. As conditions of construction contracts, contractors would be required to implement BAAQMD guidelines for controlling particulate emissions at construction sites. Therefore, potential impacts would be less than significant. No mitigation is required.

BAAQMD guidelines are summarized below:

- Seed and water all unpaved, inactive portions of the lot or lots under construction to maintain a grass cover if they are to remain inactive for long periods during building construction.
- Halt all clearing, grading, earthmoving, and excavating activities during periods of sustained strong winds (hourly average wind speeds of 25 miles per hour [mph] [40 km per hour] or greater).
- Water or treat all unpaved active portions of the construction site with dust control solutions, twice daily, to minimize windblown dust and dust generated by vehicle traffic. (City Ordinance 175-95 requires that nonpotable water be used for this purpose.)
- Sweep paved portions of the construction site daily or as necessary to control windblown dust and dust generated by vehicle traffic. Sweep streets adjacent to the construction site as necessary to remove accumulated dust and soil.
- Cover trucks carrying loose soil or sand before they leave the construction site, and limit on-site vehicle speeds to 15 mph (24 km per hour) or lower in unpaved construction areas.

- Limit the area subject to excavation, grading or other construction activity at any one time. Cover on-site storage piles of loose soil or sand.

Carbon Monoxide Emissions from Increased Traffic Congestion (Factors 1 and 2). BAAQMD guidelines suggest performing carbon monoxide analysis at congested intersections. Because the Third Street/Evans Avenue intersection would experience significant delay under the Proposed Reuse Plan, the CALINE4 model was used to estimate future carbon monoxide levels. Carbon monoxide levels at Third Street and Evans Avenue would not exceed the Federal or state 8-hour carbon monoxide standard of 9 parts per million (ppm) (see Table 4.2-2). Therefore, traffic added by the Proposed Reuse Plan is not expected to create any carbon monoxide hot spot problems. No mitigation is required.

Consistency with BAAQMD Clean Air Plan and the City Air Quality Element (Factor 4). The BAAQMD impact evaluation guidelines normally require a finding of significant impact if a project conflicts with adopted environmental plans or goals. The Proposed Reuse Plan would be consistent with many of the land use and transportation objectives and policies contained in the BAAQMD Air Quality Plan and the City's General Plan Air Quality Element.

The Proposed Reuse Plan provides for mixed use and interspersed residential, commercial, and retail uses to minimize travel distances for work and shopping trips. The Proposed Reuse Plan also includes a balanced, multimodal transportation system that accommodates transit, automobiles emphasizing ridesharing, pedestrians, and bicycles. Although the Proposed Reuse Plan is consistent with the various policies contained in the Air Quality Element of the City's General Plan, the specific land use pattern in the Proposed Reuse Plan has not been incorporated into the regional air quality plan prepared by BAAQMD and Association of Bay Area Governments (ABAG). However, Federal and state legislation requires periodically updating adopted regional air quality management plans. Because required updating provides a mechanism for addressing changing land use and transportation plans, this issue is not considered a significant impact. No mitigation is required.

Reduced Development Alternative

Less Than Significant Impacts

Ozone Precursor Emissions from Increased Traffic (Factors 1 and 2). As for the Proposed Reuse Plan, the Reduced Development Alternative would result in ozone precursor emissions (Table 4.2-3).

Under this alternative, NO_x emissions in 2010 (99.5 pounds [45 kg] a day) would be about half of those projected under the Proposed Reuse Plan (207.6 pounds [94.2 kg] a

TABLE 4.2-2:
SUMMARY OF CARBON MONOXIDE DISPERSION MODELING RESULTS

	PEAK 1-HOUR CARBON MONOXIDE CONCENTRATION (ppm)				PEAK 8-HOUR CARBON MONOXIDE CONCENTRATION (ppm)			
	Proposed Reuse Plan 2010	Proposed Reuse Plan 2025	Reduced Development 2010	Reduced Development 2025	Proposed Reuse Plan 2010	Proposed Reuse Plan 2025	Reduced Development 2010	Reduced Development 2025
NW of Evans Avenue and Third Street	8.7	12.1	6.1	6.8	6.5	9.0	4.6	5.1
SW of Evans Avenue and Third Street	8.2	10.3	6.4	6.7	6.1	7.7	4.8	5.0
NE of Evans Avenue and Third Street	8.3	10.9	5.8	6.3	6.2	8.1	4.3	4.7
SE of Evans Avenue and Third Street	8.4	11.5	6.2	6.9	6.3	8.6	4.6	5.1
NW of Palou Avenue and Third Street	5.4	5.5	5.3	5.3	4.0	4.1	4.0	4.0
SW of Palou Avenue and Third Street	5.8	5.7	5.7	5.6	4.3	4.3	4.3	4.2
NE of Palou Avenue and Third Street	5.5	5.6	5.3	5.3	4.1	4.2	4.0	4.0
SE of Palou Avenue and Third Street	5.6	5.5	5.5	5.4	4.2	4.1	4.1	4.0
NW of Innes Avenue and Donahue Street	4.8	4.7	4.6	4.5	3.6	3.5	3.4	3.4
NE of Innes Avenue and Donahue Street	4.8	4.8	4.6	4.6	3.6	3.6	3.4	3.4
SW of H Street and Spear Avenue	4.4	4.4	4.4	4.4	3.3	3.3	3.3	3.3
SE of H Street and Spear Avenue	4.7	4.6	4.5	4.4	3.5	3.4	3.4	3.3

Notes: ppm = parts per million, by volume
Modeling results were generated using the CALINE4 dispersion model and EMFAC7F emission rates for the appropriate calendar year.
Modeled receptor locations are 50 feet from the centerlines of the intersecting roadways.
Emissions from extended vehicle idling at congested intersections are included in the modeling analysis.
Modeling analyses assumed poor dispersion conditions (moderate temperature inversion [stability class E], 2.2 mph wind speed, 50-meter mixing height limit, and 10 degree wind direction fluctuation parameter), with wind directions varied in 10 degree increments.
A background carbon monoxide value of 4 ppm has been added to the peak 1-hour modeling results.
Peak 8-hour carbon monoxide concentrations are estimated as 74.6 percent of the peak 1-hour concentration (the average ratio of peak 8-hour and peak 1-hour concentrations at the Arkansas Street monitoring station (see Table 3.2-3).
Federal carbon monoxide standards are 35 ppm for a 1-hour average and 9 ppm for an 8-hour average.
California carbon monoxide standards are 20 ppm for a 1-hour average and 9 ppm for an 8-hour average.
Appendix B, Air Quality, provides calculations and assumptions for CO modeling

TABLE 4.2-3:
SUMMARY OF EMISSIONS FROM VEHICLE TRAVEL ASSOCIATED WITH THE REDUCED DEVELOPMENT ALTERNATIVE

Land use	Amount of Development		Daily Vehicle Trips	Daily VMT Estimate	Average Summer Weekday Traffic-Related Ozone Precursor Emissions (pounds per day) ROC	NO$_x$	Average Weekday Exhaust Plus Tire Wear PM_{10} Emissions (pounds per day)	Average Weekday Traffic–Related Carbon Monoxide Emissions (pounds per day) Summer	Winter
DEVELOPMENT PATTERN FOR 2010									
Single-Family and Duplex	300	UNITS	1,207	12,700	10.5	16.2	25.2	122.7	139.3
Live/Work	65	UNITS	196	2,009	1.6	2.6	4.0	19.4	22.0
R&D	30,000	SQ FT	199	2,248	1.8	3.6	4.5	21.3	24.1
Industrial	280,000	SQ FT	1,311	14,807	13.7	37.6	31.7	147.1	165.2
Mixed Use	130,000	SQ FT	1,475	13,635	10.8	21.4	27.5	128.0	144.3
Cultural/Educational	150,000	SQ FT	486	5,087	4.2	7.9	10.2	47.5	53.4
Cultural	15,000	SQ FT	286	2,994	2.2	4.7	6.1	28.0	31.4
Open Space	40.8	ACRES	420	4,355	3.1	5.6	8.6	39.8	44.8
Total			5,580	57,835	47.9	**99.5**	**117.8**	553.7	624.6
Exceedance						**19.5**	**37.8**		
DEVELOPMENT PATTERN FOR 2025									
Total Single-Family and Duplex	300	UNITS	1,207	12,700	7.3	13.8	25.2	93.2	97.9
Live/Work	100	UNITS	302	3,107	1.8	3.4	6.1	22.8	23.9
R&D	100,000	SQ FT	621	6,981	4.1	9.9	14.1	50.9	53.2
Industrial	550,000	SQ FT	1,911	21,578	15.5	50.9	46.1	168.7	176.3
Mixed Use	300,000	SQ FT	3,403	31,439	17.6	43.2	63.4	229.2	235.7
Cultural/Educational	300,000	SQ FT	729	7,630	4.5	10.5	15.4	55.0	56.8
Cultural	45,000	SQ FT	797	8,352	4.2	11.5	16.8	60.3	62.2
Open Space	135.8	ACRES	1,030	10,701	5.2	11.6	21.3	74.6	76.7
Total			10,000	102,488	60.2	**154.7**	**208.4**	754.8	782.7
Exceedance						**74.7**	**128.4**		

Notes: VMT = vehicle miles traveled. ROC = reactive organic compounds, NO_x = nitrogen oxides, CO = carbon monoxide, PM_{10} = inhalable particulate matter. Net trip generation reflects adjustments for transit use, nonvehicular modes, transportation control programs, and internal trips between reuse plan land uses. Vehicle emission rates derived from the EMFAC7F vehicle emission rate model using a mix of trip types, trip distances and speeds, vehicle operating modes, and vehicle types. Emission rates for home-based trip types reflect a vehicle mix with 1 percent heavy trucks. Emission rates for other trip types reflect a heavy truck fraction appropriate for the land use (7.2 percent for commercial uses, 17.5 percent for industrial uses, and 1 percent for open space). **Bold** numbers indicate exceedance of significance thresholds (80 pounds [36 kg] a day for ROC, NO_x, and PM_{10}).

day). These emissions assume a substantial amount of ridesharing, transit use, and nonvehicular transit as outlined for the Proposed Reuse Plan.

The 1997 CAP for the San Francisco Bay Area estimates that regional emissions in 2003 (the last year for which a projection is available) would be 820,000 pounds (372,000 kg) per day of reactive organic compounds and 982,000 pounds (445,000 kg) per day of NO_x. The addition of less than 100 pounds (45 kg) per day of either ozone precursor by 2010 (and less than 155 pounds [70 kg] per day by 2025) under the Reduced Development Alternative (Table 4.2-3) would not cause a measurable change in the location, magnitude, or frequency of high ozone concentrations. Consequently, the change in land use and vehicle travel patterns resulting from build-out of the Reduced Development Alternative would not lead to additional violations of ambient air quality standards for ozone. No mitigation is required. However, as described earlier in this section, the City and San Francisco Redevelopment Agency have committed to identifying potential costs associated with a variety of additional air quality measures and implementing those measures that are determined feasible by the Redevelopment Agency Commission.

PM_{10} Emissions from Increased Traffic (Factors 1 and 2). As for the Proposed Reuse Plan, vehicle travel associated with the Reduced Development Alternative would result in an increase in traffic-related PM_{10} in 2010 and 2025.

These PM_{10} emissions would be less than those projected under the Proposed Reuse Plan (117.8 pounds [53.4 kg] a day in 2010 and 208.4 pounds [94.5 kg] a day in 2025 under the Reduced Development Alternative compared to 264.3 pounds [119.9 kg] a day in 2010 and 451.2 pounds [204.7 kg] a day in 2025 under the Proposed Reuse Plan).

The 1997 CAP for the San Francisco Bay Area estimates that regional PM_{10} emissions in 2003 (the last year for which a projection is available) would be 434,000 pounds (197,000 kg) per day. The addition of less than 118 pounds (54 kg) by 2010 (and less than 209 pounds [95 kg] per day by 2025) under the Reduced Development Alternative (Table 4.2-3) would not cause a measurable change in the location, magnitude, or frequency of PM_{10} concentrations. Consequently, the change in land use and vehicle travel patterns resulting from build-out of the Proposed Reuse Plan would not lead to violations of the ambient air quality standards for PM_{10}. No mitigation is required.

Toxic Air Contaminants from Stationary, Mobile, and Cumulative Sources (Factor 3). As described under the Proposed Reuse Plan, industrial operations at HPS would create new stationary sources of toxic air contaminant emissions. The Reduced Development Alternative would result in a maximum buildout of 100,000 gross square feet (9,300 gross square m) of research and development use, compared to 312,000 gross square feet (29,000 gross square m) under the Proposed Reuse Plan. In addition, vehicle trips generated under the Reduced Development Alternative, although fewer than under the Proposed Reuse Plan, would cause motor vehicle exhaust and evaporative emissions, known mobile sources of toxic air contaminants. This potential impact is similar to, but less than, the less than significant impact described for the Proposed Reuse Plan. No mitigation is required.

Airborne Dust from Construction and Demolition (Factor 1). As described under the Proposed Reuse Plan, building demolition, renovation, and construction activities have the potential for generating dust. These activities would occur incrementally over an extended build-out period, making it impossible to estimate specific numbers for any particular year. Construction-generated dust would be reduced to a less than significant level by implementing dust control measures as required by the BAAQMD. No mitigation is required.

Carbon Monoxide Emissions from Increased Traffic Congestion (Factors 1 and 2). As shown in Table 4.2-2, carbon monoxide levels under the Reduced Development Alternative in both 2010 and 2025 would not exceed the Federal and state 8-hour carbon monoxide standard of 9 ppm. Therefore, this would be a less than significant impact. No mitigation is required.

Consistency with BAAQMD Clean Air Plan and the City Air Quality Element (Factor 4). As under the Proposed Reuse Plan, the Reduced Development Alternative would be consistent with many of the land use and transportation objectives and policies contained in the BAAQMD Air Quality Plan and the City's General Plan Air Quality Element. Therefore, this would be a less than significant impact. No mitigation is required.

4.2.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. Retaining HPS in caretaker status under the No Action Alternative is not a Federal agency action subject to CAA conformity determination requirements. No air quality impacts are anticipated, and no mitigation is required.

4.3 NOISE

Due to the attenuation of noise levels with distance from the noise source, the ROI for noise impacts is the South Bayshore planning area. A more localized ROI is appropriate for some discrete noise sources.

Factors considered in determining whether an alternative would have significant noise impacts include the extent or degree to which its implementation would 1) expose sensitive receptors to excessive noise, 2) permanently and noticeably increase ambient noise in a manner that could affect the use and enjoyment of adjacent areas or facilities, 3) locate a noise-sensitive reuse such that it is negatively affected by existing noise levels, or 4) result in temporary noise levels in excess of limits set by the City's Noise Ordinance.

4.3.1 Navy Disposal

The disposal of Federal property at HPS out of Federal ownership would not result in any direct noise impacts. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.3.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

The Proposed Reuse Plan would result in increased noise from stationary and mobile (traffic) sources, including truck traffic (see Section 4.1, Transportation, Traffic, and Circulation). These impacts are analyzed, along with the potential for new receptors to be exposed to existing high noise levels. Where noise impacts are quantified, they represent project plus cumulative conditions, because background growth in traffic volumes is assumed. Cumulative conditions considering reuse combined with remediation activities are discussed in Chapter 5.

Significant and Mitigable Impact

Impact 1: On-Site Traffic Noise (East of Donahue Street) (Factors 1 and 2). Traffic noise levels have been modeled for representative on-site locations at HPS. Modeling results for the Proposed Reuse Plan are presented in Table 4.3-1. The modeling analyses assumed a high truck traffic component for both surface street and freeway traffic but assumed that site remediation was complete.

Properties within 100 feet (30 m) of the roadway centerline of Donahue Street would be exposed to Community Noise Equivalent Levels (CNEL) levels above 65 on the "A-weighted" decibel scale (dBA) at build-out of the Proposed Reuse Plan in 2025. These noise levels would have a significant and mitigable impact on residential properties proposed for development on the east side of Donahue Street.

TABLE 4.3-1: SUMMARY OF TRAFFIC NOISE MODELING RESULTS

General Location	Distance from Centerline (feet)	MODELED CNEL LEVEL (dBA) BY REUSE PLAN									
		No Action (Without Project)		Proposed Reuse Plan				Reduced Development			
		2010	2025	2010	2025	Increase Above 2010 No Action Conditions	Increase Above 2025 No Action Conditions	2010	2025	Increase Above 2010 No Action Conditions	Increase Above 2025 No Action Conditions
North of Innes Avenue[1], west of HPS	100	59.6	59.7	67.1	68.5	7.5	8.8	63.9	65.5	4.3	5.8
	150	57.9	58.1	64.7	66.1	6.8	8	61.6	63.2	3.7	5.1
	200	57	57.3	63.0	64.4	6	7.1	60.2	61.6	3.2	4.3
	300	56.1	56.4	60.9	62.2	4.8	5.8	58.5	59.8	2.4	3.4
	400	55.5	55.8	59.6	60.8	4.1	5	57.4	58.6	1.9	2.8
	500	55.2	55.5	58.7	59.8	3.5	4.3	56.8	57.8	1.6	2.3
South of Innes Avenue[1], west of HPS	100	59.6	59.8	67.1	68.5	7.5	8.7	63.9	65.5	4.3	5.7
	150	58	58.2	64.7	66.1	6.7	7.9	61.6	63.2	3.6	5
	200	57.1	57.4	63.1	64.4	6	7	60.2	61.7	3.1	4.3
	300	56.2	56.5	61.0	62.3	4.8	5.8	58.6	59.8	2.4	3.3
	400	55.8	56.2	59.8	60.9	4	4.7	57.6	58.8	1.8	2.6
	500	55.6	56	59.0	60.0	3.4	4	57.1	58.1	1.5	2.1
West of Donahue Street[2], within HPS	100	56.9	57.1	63.6	65.3	6.7	8.2	60.2	62.0	3.3	4.9
	150	55.7	56	61.6	63.2	5.9	7.2	58.5	60.2	2.8	4.2
	200	55.2	55.4	60.4	61.9	5.2	6.5	57.6	59.1	2.4	3.7
	300	54.6	54.9	59.1	60.5	4.5	5.6	56.6	58.0	2	3.1
	400	54.5	54.8	58.4	59.7	3.9	4.9	56.2	57.4	1.7	2.6
	500	54.4	54.7	58.1	59.3	3.7	4.6	56.0	57.2	1.6	2.5
East of Donahue Street[2], within HPS	100	56.8	57	63.5	65.2	6.7	8.2	60.1	62.0	3.3	5
	150	55.5	55.8	61.5	63.1	6	7.3	58.3	60.0	2.8	4.2
	200	54.9	55.1	60.2	61.8	5.3	6.7	57.3	58.9	2.4	3.8
	300	54.1	54.4	58.7	60.1	4.6	5.7	56.1	57.5	2	3.1
	400	53.7	54	57.8	59.2	4.1	5.2	55.4	56.8	1.7	2.8
	500	53.4	53.8	57.2	58.5	3.8	4.7	55.0	56.2	1.6	2.4
South of Lockwood Avenue[3], within HPS	100	53	53.3	58.0	59.9	5	6.6	55.5	56.4	2.5	3.1
	150	52.5	52.9	56.6	58.4	4.1	5.5	54.4	55.4	1.9	2.5
	200	52.4	52.7	55.9	57.5	3.5	4.8	53.9	55.0	1.5	2.3
	300	52.2	52.6	55.2	56.7	3	4.1	53.5	54.7	1.3	2.1
	400	52.2	52.6	55.0	56.5	2.8	3.9	53.4	54.6	1.2	2
	500	52.3	52.6	55.0	56.4	2.7	3.8	53.4	54.6	1.1	2

[1] Transects located 1,219 feet west of Donahue Street (mid-point of modeled road segment entering HPS).

[2] Transects located 568 feet north of Innes Avenue (mid-way between Innes and Lockwood Avenues).

[3] Transect located 1,316 feet east of Donahue Street (mid-way between Donahue and Spear Streets).

Notes: Traffic noise was modeled using the Federal Highway Administration traffic noise prediction model, California vehicle noise emission levels, and hourly distributions of car and truck traffic representative of freeways and arterial highways. Modeled traffic speeds were adjusted according to hourly volume/capacity ratios. Modeling results include noise contributions from the entire modeled roadway network, not just road segments in the immediate vicinity of the receptor transects.

Mitigation 1. To reduce noise impacts on proposed residential properties east of Donahue Street, orient and design new or renovated buildings such that future noise intrusion would be minimized to within acceptable levels. Physical barriers also could be constructed to reduce noise transmission to these residential areas. Implementing these measures, in addition to required compliance with the City Building Code's noise insulation standards for new residential construction, would reduce this impact to a less than significant level.

Less Than Significant Impacts

On-Site Traffic Noise (West of Donahue Street) (Factors 1 and 2). Increased traffic levels are predicted to raise CNEL levels west of Donahue Street to above 65 dBA. However, land uses proposed for these areas are primarily research and development. This type of development is not considered a noise-sensitive use, and therefore noise impacts would be less than significant. If sensitive equipment is proposed within these developments, it is assumed to be housed in appropriate enclosures and protected from ambient noise and vibration. No mitigation is required.

On-Site Traffic Noise (Lockwood Avenue) (Factors 1 and 2). Increased traffic levels under the Proposed Reuse Plan are predicted to raise CNEL levels along Lockwood Avenue by as much as 6.6 dBA. These increased noise levels would not cause a significant impact on proposed residential development associated with the mixed-use area south of Lockwood Avenue, because projected noise levels in both 2010 and 2025 would remain below 60 dBA.

Off-Site Traffic Noise (Factors 1 and 2). Implementing the Proposed Reuse Plan would increase traffic levels along the Evans Street/Innes Avenue corridor, the major access route to HPS. (It is estimated that 80 percent of project traffic would access HPS via the North Gate, with the remaining 20 percent using Crisp Gate.) Future noise levels along Innes Avenue without the project are expected to be below 60 dBA in both 2010 and 2025. With implementation of the Proposed Reuse Plan, about 1,672 additional automobiles and 144 additional trucks are projected in the A.M. peak hour and about 1,960 additional automobiles and 88 additional trucks in the P.M. peak hour along this route by 2025. This additional traffic would be expected to increase CNEL levels at land uses fronting Innes Avenue by 7 to 8 dBA. Locations within 150 feet (45 m) of the roadway centerline would experience CNEL levels above 65 dBA. However, existing commercial and industrial properties fronting Innes Avenue are not noise-sensitive land uses. Residential properties on the south side of Innes Avenue, 500 feet (152 m) or further from the roadway centerline, would experience noise levels 60 dBA or less in 2010 and 2025. These noise levels are within the normally acceptable range for residential uses and are therefore considered less than significant.

Access to HPS at Crisp Gate would increase traffic levels along Griffith Street and Carroll Avenue by about 20 percent by 2025 (an increase of about 418 automobiles and 36 trucks in the A.M. peak hour and an increase of about 490 automobiles and 22 trucks in the P.M. peak hour). However, this traffic increase would occur along an established truck route that runs through heavy and light industrial areas that are not noise sensitive. Off-site traffic noise would result in a less than significant noise impact. No mitigation is required.

Noise/Land Use Compatibility Conflicts (Factor 3). Industrial operations can create noise problems for adjacent noise-sensitive land uses. A potential juxtaposition of concern is combining planned mixed-use areas with industrial activities at Drydock 4. However, the Proposed Reuse Plan generally provides spatial separation and buffer areas to minimize noise problems from industrial operations. The City's Building Code includes standards for noise insulation that would be met by new residential construction. In addition, the City's Noise Ordinance is an enforcement mechanism that would limit noise impacts from construction activities and stationary sources. Therefore, land use compatibility conflicts would be less than significant. No mitigation is required.

Noise Associated with Construction and Demolition (Factor 4). Construction and demolition activities have the potential for causing temporary disturbance to adjacent land uses. Occupied residences within 300 feet (90 m) of construction or demolition sites (or within 600 feet [180 m] of pile-driving sites) could experience temporary disturbance from construction noise.

Table 4.3-2 summarizes heavy equipment noise estimates for typical construction sites. If multiple items of heavy equipment operate in proximity to each other, daytime noise levels could exceed 80 dBA within 100 to 200 feet (30 to 60 m) of the work site.

Construction requiring pile driving would affect a more extensive area. Pile-driving equipment generates a highly disturbing impulsive noise, with average noise levels of about 97 dBA and peak noise levels above 110 dBA at 50 feet (15 m). Over an 8-hour work day, CNEL increments would exceed 70 dBA for locations within about 600 feet (180 m) of pile-driving sites.

Construction noise impacts would be reduced to acceptable levels by restricting most construction activity to normal daytime periods and requiring compliance with the City's Noise Ordinance. Nighttime construction activities would require special permits to comply with the City's Noise Ordinance. This would be a less than significant impact. No mitigation is required.

TABLE 4.3-2:
TYPICAL CONSTRUCTION SITE NOISE IMPACTS

Receptor Distance (feet)	Noise Level Increment per Unit (dBA)					Combined Equipment Noise (dBA)	Work Day CNEL Increment[1] (dBA)
	Bulldozer	Loader	Backhoe	Jack Hammer	Truck	Daytime	
50	85.0	80.0	83.0	90.0	85.0	95.2	90.5
100	78.9	73.9	76.9	83.8	79.0	89.1	84.3
200	72.7	67.8	70.8	77.4	72.9	82.8	78.0
400	66.2	61.5	64.5	70.5	66.7	76.2	71.4
600	62.2	57.7	60.7	66.2	63.0	72.1	67.4
800	59.3	54.9	57.9	62.9	60.3	69.1	64.3
1,000	56.9	52.6	55.6	60.1	58.1	66.6	61.8
1,500	52.2	48.3	51.3	54.5	54.1	61.8	57.1
2,000	48.6	45.1	48.1	50.0	51.2	58.2	53.4
2,500	45.5	42.4	45.4	46.0	48.7	55.2	50.5
3,000	42.8	40.1	43.1	42.3	46.7	52.7	47.9
4,000	38.0	36.0	39.0	35.7	43.2	48.6	43.8
5,280	32.7	31.7	34.7	28.0	39.6	44.3	39.6
7,500	24.6	25.3	28.3	15.7	34.4	38.6	33.8
9,000	19.6	21.4	24.4	7.9	31.3	35.3	30.5
10,560	14.6	17.6	20.6	0.1	28.4	32.2	27.4

Sources:

U.S. Environmental Protection Agency, 1971; Gharabegian et al., 1985; Acoustical Society of America, 1978.

[1]Evening and night periods of zero noise levels are taken into account in the calculation of the work-day CNEL increment.

Notes:

Combined equipment noise level and CNEL increment calculations assume one bulldozer, two front-end loaders, one backhoe, two jackhammers, and two heavy trucks operating concurrently in proximity to each other over an 8-hour work day.

Distance attenuation calculations include minimum atmospheric absorption rates of 0.229 dBA/100 feet for bulldozers, 0.152 dBA/100 feet for front-end loaders and backhoes, 0.415 dBA/100 feet for jackhammers, and 0.098 dBA/100 feet for heavy trucks.

Atmospheric absorption rates were calculated from source spectrum data over a range of temperature and humidity conditions; minimum absorption rates (cool temperatures and high humidity) were used for noise calculations. Except for sounds with highly distinctive tonal characteristics, noise from a particular source is not identifiable when its incremental noise level contribution is significantly less than background noise levels.

Reduced Development Alternative

Significant and Mitigable Impacts

Impact 1: On-Site Traffic Noise (East of Donahue Street) (Factors 1 and 2). As shown in Table 4.3-1, properties within 100 feet (30 m) of the roadway centerline of Donahue Street would be exposed to CNEL levels of about 62 dBA at build-out of the Reduced

Development Alternative in 2025. These noise levels would have a significant and mitigable impact on residential properties proposed for development along the east side of Donahue Street.

Mitigation 1. Mitigation would be the same as Mitigation 1 described for the Proposed Reuse Plan.

Less Than Significant Impacts

On-Site Traffic Noise (West of Donahue Street) (Factors 1 and 2). Under the Reduced Development Alternative, the CNEL levels west of Donahue Street would reach approximately 62 dBA. These noise levels are considered less than significant, because they would not adversely affect the industrial uses fronting the western portion of Donahue Street. No mitigation is required.

On-Site Traffic Noise (Lockwood Avenue) (Factors 1 and 2). Under the Reduced Development Alternative, CNEL levels along Lockwood Avenue would remain below 60 dBA. These noise levels are considered less than significant, because they would not adversely affect industrial and mixed-use developments along Lockwood Avenue. No mitigation is required.

Off-Site Traffic Noise (Factors 1 and 2). Project-related traffic noise under the Reduced Development Alternative would be on average 3 dBA less than levels projected under the Proposed Reuse Plan in 2025. Commercial and industrial properties adjacent to Innes Avenue would experience noise levels slightly above 65 dBA; however, these land uses are not noise sensitive. Residential properties set back 300 feet (90 m) or more from the south side of Innes Avenue would experience noise levels well below 60 dBA. Traffic accessing Crisp Gate would travel along Griffith Street and Carroll Avenue, an established truck route that runs through heavy and light industrial areas that are not noise-sensitive uses. Therefore, off-site traffic noise would have a less than significant noise impact. No mitigation is required.

Noise/Land Use Compatibility Conflicts (Factor 3). The potential for land use compatibility conflicts under the Reduced Development Alternative would be less than those discussed for the Proposed Reuse Plan because less intense development is proposed. No mitigation is required.

Noise Associated with Construction and Demolition (Factor 4). As described under the Proposed Reuse Plan, construction and demolition noise impacts under the Reduced Development Alternative would be less than significant because of compliance with the City's Noise Ordinance. No mitigation is required.

4.3.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. No noise impacts are anticipated, and no mitigation is required.

4.4 LAND USE

The ROI for land use is HPS and the South Bayshore planning area. Land use changes are not in themselves significant impacts. Land use changes are the result of the conversion of a military installation as the property is transferred to civilian use. The following analysis focuses on the impact of proposed land use changes on the vicinity character and the compatibility of proposed land uses with existing non-Navy land uses.

Factors considered in determining whether an alternative would have a significant land use impact include the extent or degree to which implementation of the alternative would 1) conflict with substantive requirements of any agency that, following property conveyance, would have jurisdiction over the purposes to which the properties are used, 2) result in the nonattainment of that agency's policies, or 3) result in proposed uses that are incompatible with existing adjacent land uses.

4.4.1 Navy Disposal

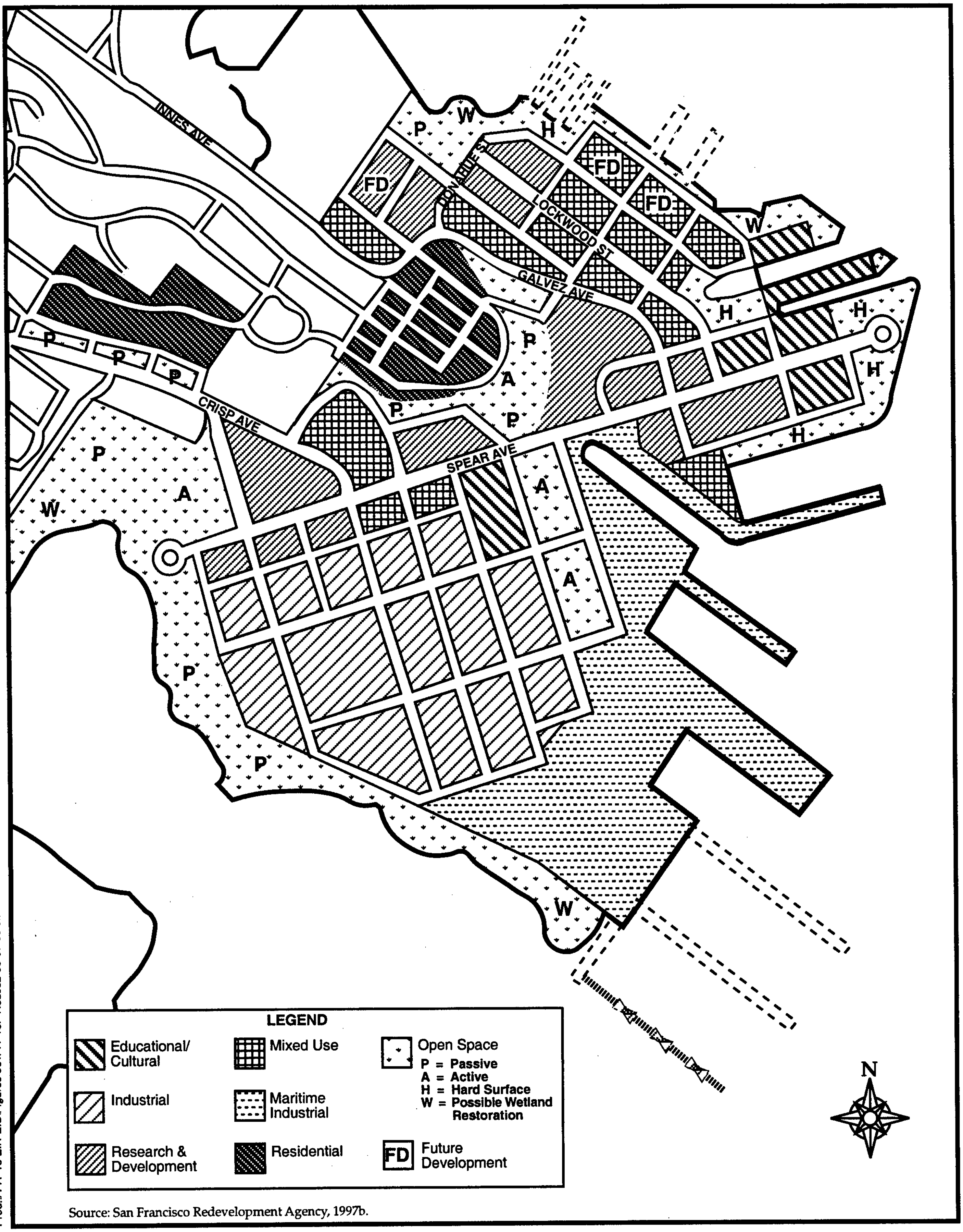
The disposal action is a mere transfer of title and would not result in direct environmental impacts. Transfer of the property out of Federal ownership would make the property subject to local zoning and land use policies. Navy would ensure that the property was suitable for conveyance for the use intended and that the intended use was consistent with the protection of human health and the environment. Future property recipients would be notified of the environmental condition of the property, and, where appropriate, covenants, conditions, or restrictions would be included in the conveyance document to ensure protection of human health and the environment, taking into consideration the intended land uses. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.4.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

Proposed land uses through 2010 would include residential, open space, and mixed-use projects on the northern, central, and western portions of HPS. Residential development of 800 units would be concentrated on 30 acres (12 hectares [ha]) in the hilltop area of HPS, and 500 additional residential units would be dispersed throughout the mixed-use areas. Open space would border the residential area along the hillside. Industrial, maritime/industrial, mixed use (including live/work space), open space, and educational/cultural/historic uses would be in the central portion of HPS. Most of the HPS northern shoreline would be developed for research and development and mixed use or would be left as open space (Figure 4.4-1).

Table 4.4-1 summarizes development by land use category at 2010 and 2025.



Prod.:/141-15 EIR-EIS\Figures 98\141-15F Reuse2 05-07-99 JL

Figure 4.4-1: Proposed Reuse Plan, Hunters Point Shipyard

TABLE 4.4-1: LAND USES FOR THE PROPOSED REUSE PLAN

LAND USE	POTENTIAL GROSS SQUARE FEET YEAR 2010	POTENTIAL GROSS SQUARE FEET YEAR 2025	APPROXIMATE ACRES YEAR 2025
Industrial	385,000	775,000	96
Maritime Industrial	175,000	360,000	85
Research & Development	65,000	312,000	70
Cultural/Education	335,000	555,600	25
Mixed Use	570,000	1,150,000	55
Live/Work (in Mixed Use Areas)	300,000 (300 units)	500,000 (500 units)	(Note 3)
Residential	1,300,000 (1,300 units)	1,300,000 (1,300 units)	38
Open Space	NA	NA	124

Source: City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995, and San Francisco Redevelopment Agency, 1998b.

Notes:

(1) Residential units and live/work units are assumed to average 1,000 square feet per unit.

(2) Under the Proposed Reuse Plan, residential units include 800 single family and duplex dwelling units and 500 apartments over commercial space.

(3) "Mixed use" includes live/work units.

(4) Live/work and residential units are given in rounded numbers.

NA Not Applicable

The difference between 2010 and 2025 build-out is the number of developments that would be built for research and development, mixed-use, industrial, and maritime industrial uses. The increase in density between 2010 and 2025 would occur on the northern and central portions of HPS. The mixed-use area along Lockwood Street in the northern portion of HPS would be compatible with similar areas in the neighborhood.

The hilltop residential area would be completed by 2010. Expanded mixed-use development between 2010 and 2025 would be along the northeast side of Galvez Avenue and would be bordered by a research and development area. The east end of Spear Avenue would include open space and cultural development.

Research and development areas along the north side of Spear Avenue would be implemented with mixed use toward the northeast corner of Spear and Crisp Avenues. Mixed use extending south of Spear Avenue would continue. Mixed use would include ground floor commercial space, some upper floor live/work uses, and upper level office space. Mixed use would be adjacent to the south side of Spear Avenue. Industrial uses would extend farther south toward the southern open space. The active open space south of Spear Avenue along Cochrane Street would include recreational uses toward the water. Educational uses (possibly job training) are planned at Spear Avenue and Hussey Street.

Objectives and policies contained in the *Land Use Alternatives and Proposed Draft Plan, Hunters Point Shipyard Land Use Plan* (City and County of San Francisco, Planning Department and San Francisco Redevelopment Agency, 1997a) define the land use goals for HPS. Many of the objectives and supporting policies are designed to avoid land use impacts from HPS reuse and are summarized below to identify components of the Proposed Reuse Plan intended to ensure land use compatibility.

Objective 1: Land Use

Develop a balanced neighborhood of businesses, cultural facilities, housing, community services, educational facilities, open space, and recreational facilities that minimizes land use conflicts and is integrated into the Bayview-Hunters Point neighborhood.

- Policy 3: Avoid conflicts between housing and industrial areas.
- Policy 5: Ensure that new uses are compatible with existing Bayview-Hunters Point land uses.
- Policy 9: Provide a system of parks, open spaces, and recreational facilities that benefit HPS residents, workers, visitors, and other City residents and that provide linkages to open spaces outside HPS.

Objective 4: Commerce and Industry

Improve the viability of existing HPS businesses, including its artist community.

- Policy 4: Ensure that interim uses at HPS are consistent with and do not detract from long-term development of the site.

Objective 5: Residence

Guide and encourage the development of well-designed new residential areas at HPS that assist in meeting the City's housing needs.

- Policy 1: Link the patterns of new neighborhoods into the existing residential community on Hunters Point Hill.
- Policy 2: Provide for neighborhood security through housing orientation, housing design, and adequate street lighting.
- Policy 8: Provide opportunities and incentives for well-designed live/work housing that ensures high standards of interior environmental health and safety in areas of HPS where this will not impede industrial or commercial growth and operation.

Objective 10: Urban Design and Preservation

Create and emphasize an urban pattern that is based on and enhances the site's natural features and that provides a sense of integration with the adjacent City pattern.

- Policy 2: Integrate the site's open space system with adjacent existing open space, such as the Bay Trail.

Objective 12: Urban Design and Preservation

Conserve and enhance historic resources that provide continuity with the community's history and culture.

- Policy 2: Consider the preservation and potential adaptive reuse of historic buildings and structures around Drydocks 2 and 3 as a focus of the arts/cultural and mixed-use district.

- Policy 3: Consider the preservation and potential adaptive reuse of the large crane on the regunning pier.

- Policy 4: Consider the preservation and adaptive reuse of all or of primary portions of the "green glass" building (Navy Building 253).

- Policy 5: Consider the preservation and potential adaptive reuse of Drydock 4.

- Policy 6: Apply the nationally established and locally adopted Secretary of the Interior's Standards for Treatment of Historic Properties (U.S. Department of the Interior, 1992) for the reuse of all buildings designated on the National Register of Historic Places and any other standards as set forth in state or San Francisco legislation.

- Policy 7: Encourage and facilitate the repair and use of HPS waterfront for a range of water-related activities and maintain visual and physical access to these activities.

- Policy 8: Encourage retention of usable, safe, and economically viable flexible-use structures on HPS as consistent with interim use and phasing plans.

- Policy 9: With the exception of historic and significant structures noted above, allow for the demolition of nonessential, non-economically viable unsafe structures, especially as part of logical site preparation and remediation by the Navy before conveyance of the site to San Francisco.

Objective 15: Recreation and Open Space

Establish a network of active and passive open spaces and public places on HPS that are exemplary in their design quality and their ability to invite and welcome a diverse population and range of activities.

- Policy 2: Provide a waterfront plaza adjacent to and integral with the cultural/arts mixed-use area.
- Policy 4: Provide a corridor for the Bay Trail close to the Bay shoreline and linking up with the regional Bay Trail alignments to the north and south.
- Policy 7: Consider the development of a small boat harbor/marina with the potential for future ferry and water taxi service linking HPS with other shoreline areas in the City and Bay Area.
- Policy 12: Provide maximum public access and use of the waterfront.

Less Than Significant Impacts

Alteration of Present Land Use (Factors 1 and 2). Implementing the Proposed Reuse Plan would introduce additional businesses and residences to HPS and would result in some changes in land use. The primary change would be from vacant, industrial land to open space, research and development, mixed-use, educational/cultural, and active industrial uses. More specific land use changes can be seen by comparing Figures 3.4-2 and 3.4-3 to Figure 4.4-1. The overall land use changes would reflect the increased activity at HPS, bringing HPS more in line with activities and densities experienced elsewhere in urban San Francisco.

Impacts on occupied buildings could be expected due to renovation and removal of some buildings and the changes in land uses surrounding these buildings. Land use changes to specific buildings resulting from implementing the Proposed Reuse Plan would create a more cohesive and planned use of HPS land. Public access to HPS is currently controlled. Implementing the Proposed Reuse Plan would increase open space areas available to the public, including about 141.5 acres (58 ha) of planned open space by 2025. This amount of open space (estimated at 1 acre [0.4 ha] for every 28 persons in year 2025) would be a substantial addition to the HPS and Bayview-Hunters Point areas and would be considered an overall beneficial impact.

Planned land use changes and the potential intensification of use in some areas would fulfill major objectives and policies of the Proposed Reuse Plan and would not be considered significant environmental impacts. No mitigation is required.

Juxtaposition of Planned and Existing Land Uses (Factor 3). Because the Proposed Reuse Plan would be developed over time, there is a possibility that land uses under the Proposed Reuse Plan could coexist for a time with existing or interim land uses that would not remain after build-out. Potential juxtapositions of concern include combining planned educational and cultural uses with existing industrial uses north of the North Pier area and combining planned mixed-use areas with industrial activities at Drydock 4. While these potential impacts are not expected to be significant, given San

Francisco Redevelopment Agency oversight and plan objectives, additional evaluation may be warranted as specific proposals are considered for these areas. No mitigation is required.

Juxtaposition of HPS Uses and Adjacent Areas. Implementing the Proposed Reuse Plan in areas along the land-side (northwestern) boundary of HPS could transform existing land uses into new land uses. These areas of HPS are currently vacant, residential, and open space areas, with small pockets of industrial, commercial, and Navy administration uses (Figure 3.4-2). These areas generally would be designated for similar land uses: residential, open space, and research and development (Figure 4.4-1). Intensifying use within these categories, particularly within the residential and research and development areas, would be noticeable to residents and businesses outside the HPS gates. In the areas north and south of the Crisp Avenue Gate, planned open space would serve as a buffer between existing residential uses and proposed research and development uses and between existing industrial uses and proposed residential uses along the border. The juxtaposition of HPS uses and adjacent areas would not be considered a significant environmental impact because of this buffering, because of the similar nature of land uses involved, and because land use intensification within HPS is expected as part of reuse. No mitigation is required.

Consistency with Plans and Policies.

San Francisco General Plan: The General Plan would be amended by adopting the Proposed Reuse Plan as a new Area Plan or by amending some or all of its nine elements. Conforming amendments to the urban design, arts, and other City-wide elements are not anticipated but may be required to reflect incorporation of the HPS area into the General Plan framework. In addition, a number of maps included in various General Plan Elements would need to be revised, including Land Use and Density maps in the Residence and Commerce and Industry Elements; Open Space Plan and Eastern Shoreline Plan maps in the Recreation and Open Space Element; vehicular street and pedestrian network maps in the Transportation Element; City Pattern, Height Guidelines and Bulk Guidelines maps; and Protected Residential Areas maps in the Community Facilities Element. All of these map amendments would reflect changes resulting from new land use designations related to the HPS Area Plan; none would change designations for other areas of the City. On the whole, proposed land uses and land use policies contained in the reuse plan ordinance would be compatible with City policy.

San Francisco Bay Plan and San Francisco Bay Area Seaport Plan: Under the Federal Coastal Zone Management Act (CZMA), Federal projects or activities must be consistent to the maximum extent practicable with the provisions of the Federally approved state coastal management program (which includes the San Francisco Bay Plan and San Francisco Bay Area Seaport Plan). In 1996, the Bay Conservation and Development Commission (BCDC) approved revisions to the Bay Plan land use designations at HPS, reducing the port priority designation to 55 acres (22 ha), as shown on Figure 3.4-4.

A consistency determination is required under the CZMA to ensure that Navy's disposal of HPS is consistent to the maximum extent practicable with the BCDC management program (BCDC, 1998). Navy submitted a consistency determination to BCDC on January 12, 1999. BCDC administratively executed the consistency determination on March 8, 1999, as documented in Letter of Agreement for Consistency Determination No. CN 1-99 (reproduced in Appendix B). Following HPS disposal, San Francisco Redevelopment Agency projects within BCDC's jurisdiction may require additional BCDC permits. No mitigation is required.

State Tide Lands Trust: The Proposed Reuse Plan contains several categories of land use, some of which are consistent with Public Trust restrictions and others that may not be consistent. Maritime industrial and open space uses are consistent. Compatibility in mixed-use and other areas would depend on the specific uses involved. Where nontrust uses are proposed, they would require definition as "interim" uses of short duration or removal of the trust restrictions by agreement with the State Lands Commission (SLC) and substitution of other areas for trust uses.

The SLC and the San Francisco Redevelopment Agency are working to complete a land exchange at HPS to terminate the Public Trust on inland property no longer needed for Public Trust purposes. In exchange, lands that are near or along the water and of equal value and not now subject to the Public Trust will be made trust lands. The SLC and the San Francisco Redevelopment Agency are expected to enter into a memorandum of understanding describing the steps and approvals to complete the exchange (SLC, 1998). No mitigation is required.

City of San Francisco Sustainability Plan: Applicable objectives of the *Sustainability Plan* related to the Proposed Reuse Plan are discussed below. No significant impacts are anticipated. No mitigation is required.

Transportation objectives focus on reducing vehicle miles and facilitating use of transit, bicycles, and walking. The Proposed Reuse Plan would rely on planned MUNI line extensions and upgrades to allow a high proportion of project trips to occur on public transit.

The *Sustainability Plan* calls for expanding green space and providing recreational facilities. As described in EIS/EIR Chapter 2 of this EIS, the Proposed Reuse Plan includes open space along the southwestern and northeastern shorelines, as well as near proposed residential development, including areas for passive and active recreation, plazas and promenades, and potential wetlands restoration to serve future HPS residents, workers, and visitors.

The *Sustainability Plan* includes strategies for water and wastewater, such as maximizing wastewater reclamation and reuse, conserving potable water, minimizing storm water flows in the City's combined sewer system, reducing system discharges to the Bay, and ensuring that discharges do not impair receiving waters. There are three separate scenarios for managing storm water and wastewater at HPS: upgrade and maintain Navy's separate sewer and storm water system (Option 1), replace Navy's system with a new separated system (Option 2), and replace Navy's system with a combined system where storm water and sewage are transported to the SEWPCP for treatment in the same pipes (Option 3). Options 2 and 3 are intended to improve Bay water quality, and Option 2 would also minimize contributions to the City's combined sewer system. The water quantity and water quality effects of these proposed systems are described in Section 4.9, Water Resources.

Goals of the *Sustainability Plan* include making it a priority to minimize hazardous materials use and generation and focus remediation efforts on those issues with the highest risk of danger to human and environmental health. The reuse of HPS is consistent with this goal.

The *Sustainability Plan* asserts that "cleanup and reuse" of contaminated sites will "enable new economic development at the same time that exposure to hazardous materials from these sites is eliminated." The Proposed Reuse Plan would create industrial, research and development, mixed-use, cultural and educational, residential, open space, and maritime industrial development, projected to generate up to 6,400 jobs and to contain up to 3,900 residents (in build-out year 2025). This increase in jobs and housing generally reflects the goals of the *Sustainability Plan*. Furthermore, the high density residential and commercial development planned under the Proposed Reuse Plan is generally more efficient compared with lower density development, resulting in lower consumption of resources, such as energy resources.

Reduced Development Alternative

The types of development activities under the Reduced Development Alternative would be the same as described for the Proposed Reuse Plan but at reduced density (Table 4.4-2).

TABLE 4.4-2: LAND USE FOR THE REDUCED DEVELOPMENT ALTERNATIVE

LAND USE	POTENTIAL GROSS SQUARE FEET YEAR 2010	POTENTIAL GROSS SQUARE FEET YEAR 2025	APPROXIMATE ACRES YEAR 2025
Industrial	192,000	377,000	96
Maritime Industrial	88,000	173,000	85
Research & Development	30,000	100,000	70
Cultural/Education	165,000	345,000	25
Mixed Use	130,000	300,000	55
Live/Work (in mixed-use areas)	65,000 (65 units)	100,000 (100 units)	(Note 2)
Residential	300,000 (300 units)	300,000 (300 units)	38
Open Space	NA	NA	124

Source: City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995 and San Francisco Redevelopment Agency, 1998b.

Notes:

(1) Residential and live/work units are assumed to average 1,000 square feet per unit.

(2) "Mixed use" includes live/work units.

(3) Live/work and residential units are given in rounded numbers.

NA Not Applicable

Less Than Significant Impacts

Although less intense development would occur under the Reduced Development Alternative, the land use impacts would be the same as those identified for the Proposed Reuse Plan.

4.4.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. No land use impacts are expected, and no mitigation is required.

4.5 VISUAL RESOURCES AND AESTHETICS

The ROI for visual resources and aesthetics is HPS, surrounding residential and industrial areas, and San Francisco Bay, as well as more distant hillsides, waterfront areas, and areas with prominent views of the site.

Factors considered in determining whether an alternative would have a significant impact on visual resources include the extent or degree to which its implementation would 1) reduce scenic quality within the ROI, as seen from any public view or viewpoint and 2) damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings.

4.5.1 Navy Disposal

Navy disposal would not result in any direct changes to visual resources at HPS. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.5.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

The Proposed Reuse Plan contains urban design concepts and guidelines intended to preserve and enhance view corridors, preserve architecturally and visually significant buildings and industrial structures, encourage landscaping, provide on-site parks and open space, enhance streetscapes, and provide waterfront access/open space preservation and enhancement. In addition, the Proposed Reuse Plan proposes to renovate and revitalize run-down structures, establish public overlooks on Hunters Point Hill, and open new waterfront areas to public use. Conformance with the urban design concepts and guidelines contained in the Proposed Reuse Plan also are assumed in the Reduced Development Alternative. Implementing the following draft Urban Design and Preservation objectives and policies would lessen the Proposed Reuse Plan's potential impacts on visual quality and would have a positive impact on the aesthetics of HPS by improving its overall visual character.

Urban Design and Preservation

Objective 10: Create and emphasize an urban pattern that is based on and enhances the site's natural features and provides a sense of integration with the adjacent City pattern.

- Policy 2: Integrate the site's open space system with adjacent existing open space, such as the Bay Trail.

- Policy 4: Apply building height limits to maintain visual access to the waterfront, encourage moderate urban densities in mixed-use areas, accentuate the natural topography of the site, and highlight signature features of important public/cultural buildings.

- Policy 5: Develop a hierarchy of open spaces to serve workers, residents, and visitors.

Objective 11: Create an attractive and distinctive visual character for HPS that respects and enhances the natural features, history, and vision for mixed-use site development oriented towards arts and industrial uses.

- Policy 1: Establish distinctive urban neighborhoods meeting residential and commercial needs within natural geographical boundaries on the site.
- Policy 2: Protect and enhance major views to and from the site's open spaces, its streets, Hunters Point Hill, and the water's edge.
- Policy 3: Encourage architecture, landscaping, and public art design that enhances the distinctive character of HPS.
- Policy 5: Encourage development of the site in a way that enhances its identity and visibility from surrounding areas.

Design Guidelines

The *Design for Development* (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1997c) outlines the design objectives for HPS and contains the development standards and urban design guidelines that apply to all construction at the site and, where applicable, to rehabilitation of existing structures (see Section 2.5). These design guidelines and standards are the tools used to implement the Proposed Reuse Plan's urban design policies.

The *Design for Development* identifies overall design objectives for the entire site, as well as design guidelines for specific visual areas at HPS. For example, guidelines for the hilltop residential area call for a moderate-density residential neighborhood with development organized to maximize views to the water and to accentuate the hill form without disrupting the urban pattern when viewed from other areas. In particular, the highest development densities and heights would be at the top of the hill (73 units/acre [180 units/ha] with a 50-foot [15-m] maximum height limit), whereas lower density and height limits (29 units/acre [72 units/ha] with a 32-foot [10-m] maximum height) would be required on the sides of the hill.

Specific features of the *Design for Development* include limitations on height and bulk, housing density, area coverage, off-street parking and loading, and open space. A maximum 60-foot (18-m) height limit would apply to much of the proposed research and development land uses along Spear Street. Proposed mixed-use development in the northeastern portion of HPS and along the south side of Spear Avenue would be subject to a 50-foot (15-m) height limit, whereas most of the residential area would be subject to 40-foot (12-m) height restrictions.

Bulk standards, which specify the maximum physical dimensions of upper stories of new buildings, would comply with Article 2.5 of the City Planning Code. For example, in buildings with a maximum height limit of 50 to 60 feet (15 to 18 m), development over 40 feet (12 m) would have a maximum plan dimension length of 110 feet (33.5 m) and a maximum diagonal dimension of 125 feet (38 m).

Less Than Significant Impacts

Increased Development (Factor 1). Implementing the Proposed Reuse Plan would increase the amount of development in the northern, eastern, and central areas of HPS. The impact would be less than significant because building height and size limits identified in the *Design for Development* for HPS would be to a scale consistent with structures currently at HPS, preserving long-range views from the hilltop residential area to the north, east, and south. Urban design concepts in the Proposed Reuse Plan, which encourage landscaping and recommend enhancing natural features (Objectives 10 and 11), would further improve short-range views. No mitigation is required.

Increased Hill Area Density (Factor 1). Views from the existing residential area would be preserved by lower density development near the bluffs. Hilltop residential development would not be particularly visible from HPS because of the hilltop topography, and the placement of smaller scale buildings near the bluffs would minimize visual obstructions. Long-range views would be minimally affected because the height and bulk of development would be designed to protect views by requiring lower building heights at the edge of the hill and higher heights at the top of the hill. In addition, landscaping would be incorporated into the planned design. Therefore, there would be no significant impact on visual resources and aesthetics from increased hilltop development. No mitigation is required.

Increased Intensity of Use (Factor 1). An increase in intensity of use and in the number of structures at HPS under the Proposed Reuse Plan could alter the appearance of HPS from distant viewpoints. However, this impact would be less than significant because development guidelines incorporated in the Proposed Reuse Plan would serve as guidance to control building height and density to conform to existing HPS patterns. For example, Proposed Reuse Plan Policy 4 under Objective 10 specifically advocates applying building height limits to maintain visual access and accentuate natural topography. In addition, the *Design for Development* proposes limiting building heights to two to five stories, consistent with current building heights at HPS.

By 2025, the Proposed Reuse Plan would intensify development of the northern and central areas over 2010 levels. Between 2010 and 2025, passive open space acreage would be substantially increased. Development, including demolition and construction, would occur at a scale compatible with existing structures. Urban design policies set forth in the Proposed Reuse Plan encourage a change to the existing visual character of the proposed mixed-use areas similar to neighborhood commercial areas throughout the City. Upper-story housing or live/work spaces would be above a variety of ground-floor commercial uses. Building height would be limited to two to five stories, with a maximum height of 60 feet (18 m). Maintaining views and public access to the water would be a high priority. This change in the visual character of HPS would be consistent with the City's neighborhood commercial orientation.

Implementing the proposed street plan would provide improved view corridors to the water and HPS hillside areas. Providing additional views could benefit the aesthetics of HPS.

Urban design policies in the Proposed Reuse Plan encourage building height limits to maintain visual access to the waterfront, moderate urban densities in mixed-use areas, accentuating the natural topography of the site, and highlighting significant features of important public/cultural buildings. Implementing these policies would enhance the existing visual features of HPS.

Residential development on the hill area would be at a higher density than formerly at HPS. This would be consistent with the visual character and development of the adjacent South Bayshore area. The variety of proposed residential and other structures would enhance visual resources and would be consistent with the surrounding residential uses. Therefore, the increase in intensity of use and in the number of structures at HPS would not have a significant impact on visual resources and aesthetics. No mitigation is required.

Damage to Scenic Resources (Factor 2). The site does not contain any significant scenic trees or rock outcroppings. Therefore, implementation of the Proposed Reuse Plan would not adversely affect any such resources. The historic resources on the site that have visual prominence include the large crane, several large historic structures, and a historic district. Although these are visually prominent, they are not important scenic resources. In addition, the large crane and Drydock 4 are not proposed for removal. New development within the historic district would not result in a significant impact on the visual quality of the district because such development would be controlled by provisions of the Memorandum of Agreement for cultural resources, as described in Section 4.12. No mitigation is required.

Reduced Development Alternative

Less Than Significant Impacts

Visual impacts under this alternative would be similar to those identified for the Proposed Reuse Plan and would result from demolition and construction activities. However, proposed construction activities under this alternative would be substantially reduced from those under the Proposed Reuse Plan.

As with the Proposed Reuse Plan, the most noticeable visual effect would be the residential development of the hill area by 2010. However, fewer units (up to 300) would be developed on the hill under this alternative than under the Proposed Reuse Plan (up to 800). For the other areas of HPS, there would be some increase in density (primarily in the central and northern portions) between 2010 and 2025 under this alternative. As described above under the Proposed Reuse Plan, potential impacts related to increased development, increased density on the hilltop, damage to scenic resources, and increased intensity of use would be less than significant. No mitigation is required.

4.5.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. No impacts on visual resources and aesthetics are expected, and no mitigation is required.

4.6 SOCIOECONOMICS

The ROI for socioeconomics is the South Bayshore planning area, also referred to as the Bayview-Hunters Point neighborhood of the City. Factors considered in determining whether an alternative would have significant adverse socioeconomic impacts include the extent or degree to which its implementation would 1) induce growth or concentrations of population, 2) create a demand for additional housing in the City, 3) cause a decrease in local or ROI employment, or 4) generate student enrollment that exceeds the capability of responsible authorities to accommodate.

The significance of socioeconomic impacts is related to the social and economic characteristics of the region. Both reuse alternatives would result in new employment and income growth within the South Bayshore planning area. In general, the more jobs and income generated, the more beneficial the socioeconomic effects that may occur.

Population and housing growth are the natural consequences of employment growth in a region and are considered neither beneficial nor adverse impacts of the disposal and reuse actions. Population and housing growth can be perceived either positively or negatively, depending on the values and point-of-view of those considering the impacts. Growth in the housing supply is considered beneficial in the context of current regional and City-wide housing needs. However, population and housing growth could lead to secondary impacts that could be adverse, such as potential traffic and infrastructure improvements that growth might induce. These secondary impacts are discussed in Section 5.5, Growth-Inducing Impacts. Population growth can also result in additional demand for services, such as public schools. Additional enrollment, if it would result in school overcrowding, is considered adverse.

4.6.1 Navy Disposal

The disposal of Federal property at HPS out of Federal ownership would not result in any direct socioeconomic impacts. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.6.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

Less Than Significant Impacts

Population (Factor 1). The total population increase associated with the Proposed Reuse Plan would be approximately 3,610 persons by 2010 and an additional 290 persons (for a total population increase of approximately 3,900) by 2025. This estimate is based on the following assumptions: (1) an average household size of 3.0 for single family houses and duplexes; (2) an average household size of 1.5 for live/work and apartment units;

and (3) new housing developed as described below under Housing. This population growth is generally desired by the community, is consistent with local plans and policies, and is accounted for in ABAG's projected population increases; therefore, this would be a less than significant impact. No mitigation is required.

Housing (Factor 2). Less than significant impacts on housing are anticipated under the Proposed Reuse Plan. At present, there are no habitable housing units at HPS. Under the Proposed Reuse Plan, new housing units constructed at HPS by 2010 would include 300 live/work units, 500 apartments above commercial units, and 800 single-family houses and duplexes. Between 2010 and 2025, an additional 200 live/work units would be constructed, bringing the total of live/work units to 500 and the total of new households at HPS to 1,800. These housing units would be constructed on land that is vacant and underutilized at present. The presence of new households in the Bayview-Hunters Point neighborhood could help to stimulate desired economic growth in the community's commercial areas.

Housing affordability is a pervasive problem, not only in the South Bayshore planning area, but throughout the City and the entire Bay Area (ABAG, 1993). An objective of the HPS redevelopment plan is to provide for the development of mixed-income housing. A goal of the Proposed Reuse Plan is to make 15 percent of the new housing units affordable to low- or moderate-income households. In order to help ensure that this goal is achieved, the City intends to provide low-cost sites and/or reduced financing costs to developers for construction of affordable housing at HPS.

The Department of Housing and Urban Development (HUD) established criteria for determining eligibility for affordable housing in combination with City-wide median income statistics. "Affordable" units are targeted at households earning between 60 percent and 100 percent of the City-wide median income. In 1990, the median income in six of the eight South Bayshore planning area census tracts was below the City-wide median. In census tract 231, which contains almost a third of the South Bayshore planning area population, the median household income ($15,089) was less than half of the City-wide figure ($33,413). However, census tracts 230 and 610, where the median household income exceeded the City-wide median in 1990, contain a combined total of almost 40 percent of the South Bayshore planning area population (U.S. Department of Commerce, 1993).

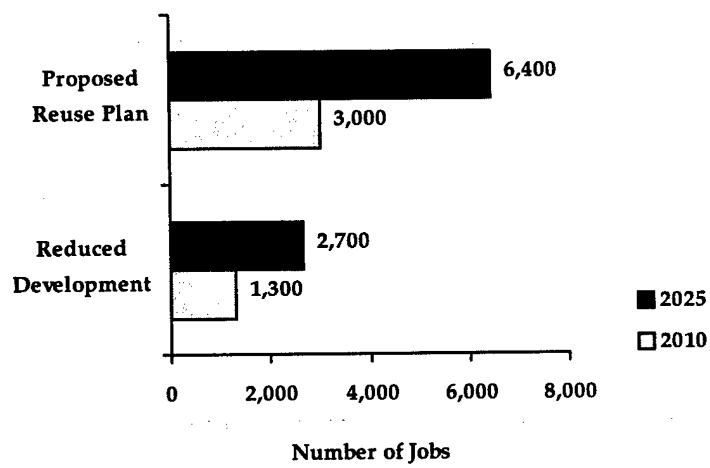
Therefore, it is likely that local residents would qualify to purchase the affordable units, or even the market-rate units, to be constructed at HPS under the Proposed Reuse Plan. No mitigation is required.

Employment (Factor 3). Under the Proposed Reuse Plan, employment opportunities in the South Bayshore planning area would increase and would be considered beneficial effects on the South Bayshore planning area (Figure 4.6-1).

ABAG (1998a) projects that employment in the Bayview-Hunters Point community will increase by 4,221 jobs (12 percent) between 2000 and 2010. Potential employment generated by the Proposed Reuse Plan by 2010 (3,000 jobs) would represent the majority of these new jobs. The additional projected job growth that would occur between 2010 and 2025 (3,400 new jobs) would represent an increase of 9 percent above the 2010 projected employment level (39,148) and would be considered an additional local economic benefit.

The Proposed Reuse Plan reflects recent employment growth trends in the City and the Bay Area of small businesses, arts, education, and cultural activities. Small start-up firms could be expected users of HPS in mixed-use space planned for the northern waterfront (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995).

FIGURE 4.6-1: PROJECTED HPS EMPLOYMENT INCREASES



Source: City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995.

Based on regional and national business trends, the types of businesses most likely to be attracted to HPS would include printing and publishing, trucking and courier services, wholesalers, food products, motion picture production, and medical supplies and equipment. Citizen input during revision of the South Bayshore Area Plan stressed the importance of job and business growth in the area, particularly for African-American residents (City and County of San Francisco, Planning Department, 1995d).

The Proposed Reuse Plan includes opportunities to bring job training and placement programs tailored to employment opportunities at HPS directly into the South Bayshore planning area. In cooperation with the Citizens Advisory Committee (CAC), San Francisco Redevelopment Agency staff drafted a "First Source Referral" program that could provide clear incentives to HPS businesses to hire locally. Businesses leasing space at HPS in the future would have the opportunity to participate in this program. By agreeing to use the City's employment and training system as the first source of referral for job opportunities created as a result of their HPS leases, business owners would qualify for partial reimbursement of the salaries paid to locally hired individuals. Lease holders would be required to file information annually with the City pertaining to job creation and place of residence of employees.

Market analysis concluded that it would be possible to attract approximately 460,000 square feet (42,735 square m) of education and training facilities to the HPS eastern waterfront in the 30-year build-out period (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995). No mitigation is required.

Schools (Factor 4). Under the Proposed Reuse Plan, the total number of school-aged children in the South Bayshore planning area would increase because of the addition of school-aged children living at HPS. ABAG projects that by 2010, 18.3 percent of the population in the South Bayshore planning area will be school-aged children (ABAG, 1998a). If 18.3 percent of the projected population at HPS in 2010 is assumed to be school-aged, approximately 661 new students could be added to the San Francisco Unified School District (SFUSD) by 2010, if all of these students elect to attend public school. In 2025, an additional 53 new students could be added from HPS, for a total of 714 students associated with HPS.

While the addition of as many as 714 new students to the SFUSD would contribute to demand for school facilities, this impact is expected to be less than significant for several reasons. The total increase in school-aged children associated with the Proposed Reuse Plan represents only one percent of the district's current enrollment. In addition, the new students would be entering the district at a time when growth in this population segment is minimal. (ABAG projects that in the planning area, the number of school-aged children will increase by only 5 percent between 1990 and 2020 and by only 11 percent for the City as a whole during this same 30-year period [ABAG, 1998a]). In addition, because of Federally mandated busing in the SFUSD, as well as the policy that allows families to elect a school outside their attendance area, it is likely that many of the children at HPS would be bused to schools outside of the planning area. The additional school children would, therefore, be distributed throughout the SFUSD rather than just in the South Bayshore area. Furthermore, the actual impact on schools resulting from reuse is likely to be less than estimated, because more than half of the housing units that would be constructed at HPS would be live/work units and apartments over commercial space. These types of units (occupied by working artists or senior citizens) would more likely have fewer children than the single-family units that are predominant at present in the Bayview-Hunters Point neighborhood. No mitigation is required.

Reduced Development Alternative

Less Than Significant Impacts

Population (Factor 1). Less than significant population impacts are projected under the Reduced Development Alternative. Assuming an average household size of 1.5 for live/work and apartment units and 3.0 for other residential uses, the population increase associated with the Reduced Development Alternative would be approximately 1,000 persons by 2010 and approximately 50 more persons by 2025, for a total population increase of 1,050. No mitigation is required.

Housing (Factor 2). Under the Reduced Development Alternative, new housing units constructed at HPS would include 65 live/work units and 300 single-family houses and duplexes for a total of 365 units. Between 2010 and 2025, an additional 35 live/work units would be constructed, bringing the total of live/work units to 100 and the total of new households at HPS to 400. Estimated total square footage for all housing units at complete build-out is 400,000 square feet (37,161 square m). Less than significant impacts on housing supply are projected under the Reduced Development Alternative. No mitigation is required.

Employment (Factor 3). Employment generated under the Reduced Development Alternative by 2010 (1,300 jobs) represents an increase of 3.8 percent over the current estimated number of jobs (34,785) in the South Bayshore planning area. The additional projected job growth for 2025 (1,400 new jobs) would be an increase of 3.0 percent above the projected 2010 employment base of 44,517. The increase in jobs associated with the Reduced Development Alternative would be a positive economic effect that would benefit current residents of the South Bayshore planning area. No mitigation is required.

Schools (Factor 4). The Reduced Development Alternative would add an estimated 183 school-aged children to the local population by 2010 and an additional 9 school-aged children (for a total of 192) by 2025. This would represent an increase of less than one percent over current SFUSD enrollment levels. As discussed for the Proposed Reuse Plan, the project would have a less than significant impact on schools. No mitigation is required.

4.6.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. No additional housing would be built on site, and there would be no resident population at HPS. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. Navy caretaker and tenant employment would not be considered an adverse or beneficial impact. Population and job growth that is desired by Bayview-Hunters Point residents and the City would not be realized under this alternative. No mitigation is required.

4.7 HAZARDOUS MATERIALS AND WASTE

The ROI for hazardous materials and waste is HPS and surrounding areas that could be affected by hazardous materials or hazardous waste originating at HPS or from which hazardous materials or wastes could migrate onto HPS.

Factors considered in determining whether an impact would have significant impacts related to hazardous materials and wastes include the extent or degree to which an alternative would 1) create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, 2) create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment, 3) be reasonably anticipated to emit hazardous emissions or require the handling of hazardous or acute hazardous materials, substances, or wastes, and 4) create a significant hazard of exposure to past contamination.

4.7.1 Navy Disposal

The disposal of Federal property at HPS out of Federal ownership would not result in any direct impacts caused by hazardous materials or hazardous waste-related activities. Navy would remediate hazardous substances to a level consistent with the protection of human health and the environment for the intended use. If conveying property before completion of the required response actions under the applicable authority, Navy would ensure that the property is suitable for conveyance for the use intended and that the intended use is consistent with the protection of human health and the environment. Future property recipients would be advised and notified of the environmental condition of the property, and legally enforceable covenants, conditions, and restrictions would be included in the conveyance document to ensure protection of human health and the environment. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.7.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

Less Than Significant Impacts

Hazardous Materials Use and Generation (Factors 1 and 2). The Proposed Reuse Plan forecasts an additional 560,000 square feet (52,025 square m) of building space to be used for industrial activities (including maritime industrial use) by 2010. By 2025, projected industrial occupancy could reach 1,135,000 square feet (105,445 square m).

Industries generating hazardous waste under the Proposed Reuse Plan would be primarily small quantity generators, but exact quantities of materials to be used or wastes generated are not known and cannot be quantified at this time. Some businesses (e.g., ship repair facilities or large manufacturing firms) could require large-quantity generator status. Hazardous wastes generated by maritime uses, such as waste oil and oily wastes, would increase with an increase in maritime activity.

No significant impacts related to hazardous materials use or hazardous waste generation are anticipated after HPS property conveyance, because Federal, state, and local laws require procedures and practices to ensure that hazardous materials are properly used, stored, and disposed of to prevent or minimize injury to human health and the environment. These laws, such as the Resource Conservation and Recovery Act (RCRA) and Proposition 65, also include provisions for labeling and notification of employees about potential environmental hazards or chemicals in the work place. For example, if businesses use acutely hazardous materials over the threshold planning quantities listed in the City's hazardous materials registration application, they would be required to apply for an Acutely Hazardous Materials Permit from the City. The City would review such permit applications, taking into account the proximity of local residents. Users of certain materials could be required to prepare Risk Management Plans under the California Accidental Release Prevention Program (California Public Safety Code, Title 19 §§ 2735.1-2785.1). If quantities stored on site are less than threshold planning levels, the materials must still be listed on a disclosure form, along with the other hazardous materials in use, as part of compliance with the City's Hazardous Materials Ordinance. Impacts are considered to be less than significant. No mitigation is required.

Hazardous Materials Management (Factors 1 and 2). The quantity of hazardous materials used, stored, and disposed of under the Proposed Reuse Plan likely would increase compared to existing conditions. Hazardous materials are tightly regulated. With implementation of the Proposed Reuse Plan, separate organizations would be responsible for managing hazardous materials according to applicable regulations. Depending on types and quantities of hazardous materials used, each organization would be subject to the Federal Superfund Amendments and Reauthorization Act (SARA) Title III, 42 United States Code (U.S.C.) § 9601 note (West, 1995) and state hazardous materials business plans and risk management programs for emergency planning review and community right-to-know inventory reporting. Hazardous wastes transported for disposal or generated under the Proposed Reuse Plan and stored for more than 90 days would be controlled by RCRA of 1976, 42 United States Code Annotated (U.S.C.A.) §§ 6901-6922k (West, 1995 and Supp. 1998). Hazardous materials management impacts would be less than significant. No mitigation is required.

Building Renovation and Demolition: Asbestos-Containing Materials in Buildings (Factor 3). U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations, enforced by the BAAQMD, set forth requirements on how to handle asbestos-containing material (ACM) in buildings under repair, remodeling, or demolition. Under the demolition case, for example, the building must be surveyed for ACM by a CAL OSHA-certified Asbestos Consultant. The survey report is required in order to obtain a demolition permit through the BAAQMD. Work practices are governed by the Federal Occupational Safety and Health Administration (OSHA) and California Occupational Safety and Health Administration (CAL OSHA) regulations. CAL OSHA regulations set forth sampling, testing, notification, management, and work practices for undamaged ACM that remains in place.

Prior to issuing a building permit for partial or full demolition of existing buildings, the San Francisco Department of Building Inspection requires evidence that all ACM has been removed in accordance with Federal and state regulations. The contractor and hauler of asbestos materials from the site would be required to manage such materials in accordance with CAL OSHA, U.S. EPA, Department of Toxic Substances Control (DTSC), and BAAQMD regulations, as well as Federal, state, and local laws, including Cal. Code Regs. Titles 22 and 23 and the City's Hazardous Materials Ordinance. Pursuant to Section 19827.5 of the California Health and Safety Code, the San Francisco Department of Building Inspection cannot issue a demolition permit until the applicant has demonstrated compliance with notification requirements under applicable Federal regulations regarding asbestos. These regulations and procedures, established as part of the City's permit review process, would ensure that potential impacts during building demolition due to exposure to asbestos would be less than significant. No mitigation is required.

Building Renovation and Demolition: Polychlorinated Biphenyls (Factor 3). As discussed in Section 3.7.4, Navy is addressing electrical equipment associated with polychlorinated biphenyls (PCBs). Therefore, a less than significant impact is anticipated for PCB-containing fluids in electrical equipment remaining at HPS. No mitigation is required.

Building Renovation and Demolition: Lead-Based Paint (Factor 3). A less than significant impact is anticipated for potential exposure to lead-based paint (LBP). The City's Building Code, Chapter 36 requires that all pre-1974 buildings be sampled for LBP prior to conducting activities that would disturb LBP, which would include renovation and demolition. In buildings proposed for demolition, an abatement plan must be prepared by a qualified environmental specialist, and project activities expected to disturb LBP must be performed by licensed and certified contractors. Contractors are required to manage LBP on building materials in accordance with Federal OSHA, CAL OSHA, DTSC, and BAAQMD regulations and applicable Federal, state, and local laws, including Cal. Code Regs. Titles 22 and 23. Future owners and users at HPS would also be responsible for complying with applicable state and local regulations concerning LBP. No mitigation is required.

Risk of Exposure to Past Contamination (Factor 4). The risk of exposure to hazardous constituents as a result of past contamination at HPS has been and continues to be addressed through Navy's separate and ongoing cleanup efforts under the Installation Restoration Program (IRP), as described in Section 3.7. As a result of this independent and ongoing cleanup effort, the purpose of which is to eliminate or reduce the risk posed by past contamination to acceptable levels, the disposal and reuse of HPS would not pose a significant hazard to the public or the environment from past contamination.

While independent of the proposed disposal and reuse action under consideration in this EIS, the scope and timing of the HPS IRP are determined to a considerable extent by the proposed reuse for the property. Anticipated land uses are considered during the development of specific risk assessment protocols and cleanup objectives at each site. In this way, the proper remedy is selected for the cleanup of each site, and the work is performed so as to facilitate reuse and redevelopment of the property as expeditiously as possible.

Prior to real property conveyance, Navy is required by law to remediate the property to a level consistent with the protection of human health and the environment, taking into consideration the intended land uses. In all cases where the release or disposal of hazardous substances or petroleum products has occurred, the conveyance of the property must be preceded by a Finding of Suitability to Transfer, in which the Navy seeks concurrence from the lead regulatory agency. Property recipients are advised and notified of the environmental condition of the property, and appropriate covenants, conditions, and restrictions are included in the conveyance document to ensure protection of human health and the environment, taking into consideration the intended land uses.

Property affected by release or disposal of hazardous substances or any petroleum product or its derivatives may be conveyed before all necessary remedial action has been completed if certain conditions for deferral of the covenant required by § 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 42 U.S.C.A. §§ 9606-9675 (West, 1995 and Supp. 1998) have been met. These conditions include the following:

- Agreement by U.S. EPA and the state that the property is suitable for the intended use and that the intended use will be protective of human health and the environment.
- Public notice and comment.
- Property use restrictions, if necessary, to ensure that human health and the environment are protected and that the necessary remedial actions can take place.

- Assurances from the Federal government that conveyance of the property will not substantially delay response actions at the property and that the necessary response actions will be completed after conveyance.

The IRP, which the Navy will continue to carry out regardless of the decision made with respect to the proposed disposal and reuse, will reduce potential risks to human health and the environment at HPS from past contamination to acceptable levels. No mitigation is required.

Reduced Development Alternative

The Reduced Development Alternative includes mixed land uses similar to those in the Proposed Reuse Plan, but with development reduced in scale. There would be fewer and less frequent demolitions and redevelopment, reduced construction activity, and fewer persons on the site. Impacts for the Reduced Development Alternative would be the same as under the Proposed Reuse Plan.

4.7.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. Investigation and remediation of potential and identified contaminated sites would continue in accordance with the remedies contained in the CERCLA ROD for each parcel. Navy would continue its compliance program for hazardous materials and waste.

Under the No Action Alternative, Navy could continue to lease properties to various tenants that use hazardous materials and generate hazardous waste. Management of these materials and waste would continue according to current regulations and would be the responsibility of the tenants. No impacts associated with hazardous materials management or hazardous waste management practices are anticipated. No mitigation is required.

4.8 GEOLOGY AND SOILS

The ROI for geology and soils is the South Bayshore planning area. Factors considered in determining whether an alternative would have a significant impact on geology and soils include the extent or degree to which its implementation would 1) cause soil erosion, sedimentation, or land subsidence, 2) adversely affect unique geologic or topographic features, 3) increase exposure of people, structures, or infrastructure to risk of catastrophic loss, injury, or death from rupture of a known earthquake fault, strong seismic ground shaking, or seismic-rated ground failure, including liquefaction or landslides or, 4) expose the public to naturally occurring asbestos.

4.8.1 Navy Disposal

The disposal of Federal property at HPS out of Federal ownership would not result in changes to geologic conditions. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.8.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

Significant and Mitigable Impacts

Impact 1: Seismic Hazards Associated with Older Buildings (Factor 3). Potential impacts from seismic activity could occur in older buildings at HPS. Unconsolidated sediments and fill materials underlying the site would be subject to liquefaction, densification, and differential settlement in the event of a sustained earthquake. These effects could damage or destroy older buildings that have not been adequately retrofitted. Strong ground shaking and acceleration is possible from seismic events on the nearby San Andreas, Hayward, and other faults. Seismic activity could increase risks to the public if the occupancy of older buildings is increased during reuse.

Mitigation 1. Before increasing the occupancy of existing buildings, survey buildings that may be unsafe in the event of an earthquake, and take appropriate steps to prevent injury. These steps could include interior modifications, bracing, retrofits, and/or access restrictions. Implementing these measures would reduce this impact to a less than significant level.

Impact 2: Naturally Occurring Asbestos (Factor 4). Because asbestos-containing serpentinite rock occurs at HPS, chrysotile asbestos could become airborne due to construction-related excavation activities under the Proposed Reuse Plan. Workers would be required to follow BAAQMD, U.S. EPA, and Federal and CAL OSHA regulations for construction and demolition activities, as well as applicable Federal and state regulations for transport and disposal of this material. The BAAQMD prohibits the use of serpentinite containing more than five percent asbestos as road, surfacing, or paving material. Even with implementation of existing regulations, there is still a potentially significant risk to public health and safety.

Mitigation 2. Continuously wet serpentinite involved in excavation or drilling operations. Wet and cover (with a 10-millimeter thick polyethylene sheet, either weighted or tied down) stockpiled serpentinite. Cap serpentinite used as fill material with at least 1 foot (0.3 m) of clean non-serpentinite fill material, and implement institutional controls to prevent future exposure from excavation activities., Implementing these measures would reduce this impact to a less than significant level.

Less Than Significant Impacts

Erosion (Factor 1). Under the Proposed Reuse Plan, increased erosion could occur in areas where development plans indicate cut and fill grading. Potential impacts include increased sediment discharge to the Bay, development of drainage gullies, and deposition of sediment in the existing drainage network (storm sewers and culverts). The impacts of increased erosion are considered less than significant.

Permitting requirements of the Department of Building Inspection follow the City's Building Code, which restricts cut and fill slopes to no greater than 2:1 (26.5 degrees), unless shown not to create a hazard to public or private property. Terracing is required by the Code to prevent runoff down graded slopes. The cut and fill slopes must be prepared and maintained to control erosion. Storm drains and gutters must be constructed to direct runoff from proposed or existing surfaces away from areas of potential erosion (City and County of San Francisco, Department of Building Inspections, 1996a and 1996b). Landscaping is to be used, where feasible, along potential erosion areas to reduce the scouring effect of high water velocity and to encourage rain water infiltration into the soil. All construction-related discharges require a permit from the City's Department of Public Works pursuant to the City's Industrial Waste Ordinance (Public Works Code Article 4.1, Ordinance 19-92, Section 123), which controls sediment transport during and after construction activities. Implementing these standard operating procedures would ensure that potential impacts would remain at a less than significant level. No mitigation is required.

Seismic Hazards Associated with Newer Buildings (Factor 3). The San Francisco Department of Building Inspection and compliance with the City's Building Code ensure that structures are built to withstand the effects of ground shaking and to protect the safety of persons in and around buildings. Newer buildings that meet current seismic and building codes, and new construction built after property transfer, would be relatively safe in the event of an earthquake. Seismic impacts on young and newly constructed buildings are considered to be less than significant. No mitigation is required.

Unique Geologic and Topographic Features (Factor 2). The site does not contain any unique geologic or topographic features. The hill on the site is a prominent topographic feature, but it is not unique and would not be substantially altered by the Proposed Reuse Plan. Therefore this impact is considered less than significant. No mitigation is required.

Landsliding (Factor 3). Impacts due to landslides are most likely in areas where grading could destabilize an existing slope or hillsides that are underlain by serpentinite bedrock. The destabilization of hill slopes would probably not threaten safety but could damage structures. Existing structures in areas of landslide vulnerability, such as Hunters Point Hill, are not occupied, and, if not demolished, would be renovated and/or reconstructed up to current code, therefore minimizing potential risks. Furthermore, the Department of Building Inspection requires conformance with the City's Building Code and provides procedures specifically to identify and mitigate impacts before new buildings are constructed. Therefore, less than significant impacts related to landslides are anticipated. No mitigation is required.

Reduced Development Alternative

The impacts and mitigations for the Reduced Development Alternative would be similar to those under the Proposed Reuse Alternative, except fewer persons would be exposed to airborne asbestos, seismic hazards, erosion, and landsliding.

4.8.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. Currently occupied buildings are considered safe for occupancy but may not meet current building codes. As no additional leasing is anticipated under this alternative, no impacts would occur. No mitigation is required.

4.9 WATER RESOURCES

The ROI for water resources is HPS and San Francisco Bay receiving waters. Project construction and operational activities could affect San Francisco Bay water quality, including near-shore waters, because of changes in surface water runoff or other discharges. This analysis evaluates the potential for reuse alternatives to substantially degrade water quality. Compliance with National Pollutant Discharge Elimination System (NPDES) permits is assumed necessary to protect water quality. This analysis examines potential effects as they relate to three types of discharges: treated combined sewer overflows (CSOs), storm water, and municipal wastewater effluent.

Factors considered in determining whether an alternative would have significant impacts on water resources include the extent or degree to which its implementation would degrade water quality and conflict with standards established by regulatory agencies.

Criteria for evaluating surface and groundwater quality in the San Francisco Bay Area are based on beneficial uses and water quality objectives established by the San Francisco Regional Water Quality Control Board (RWQCB), as authorized under the Porter-Cologne Water Quality Control Act, Cal. Water Code §§ 13000-14958 (West, 1992 and Supp. 1999). Both beneficial uses and water quality objectives for the HPS project area are described in Section 3.9.

4.9.1 Navy Disposal

The disposal of Federal property at HPS out of Federal ownership would not result in any direct water resources impacts. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.9.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

Three types of discharges to the Bay—treated CSOs, storm water runoff, and treated effluent—could be affected by implementing the Proposed Reuse Plan. Introducing new residents and businesses would result in increased (dry-weather) flows to the City's Southeast Water Pollution Control Plant (SEWPCP). These flows would receive treatment and be discharged to the Bay in the form of treated effluent. In addition, proposed improvements to the HPS storm water collection system could affect the volume and quality of direct storm water discharges to the Bay and could increase treated effluent and CSO volumes.

There are three general options for treatment of storm water at HPS:

- Option 1: Upgrade and maintain Navy's separated storm water conveyance system, with capacity for a two-year storm event.
- Option 2: Replace Navy's system with a new separated system, with capacity for a five-year storm event.
- Option 3: Replace Navy's system with a combined system, in which storm water and sewage would be transported to the SEWPCP for treatment in the same pipes.

These options could be developed under either the Proposed Reuse Plan or the Reduced Development Alternative.

Because specific upgrades to the sanitary sewer and storm drainage systems have not been designed, these three options are necessarily general in nature and would require further analysis when more specifics are known. Refinements could include additional storage, treatment, or alternative approaches to the handling of storm water (e.g., retention, reclamation). The analysis of the three options presented here is programmatic in nature. Options 1 and 2 are considered the same, because the quantity of storm water that would ultimately reach the Bay (through pipes or overland flow) would be about the same. In each case, when the capacity of the system is exceeded, localized ponding of storm water would occur, along with increased overland flows to the Bay.

As described in Section 3.9, a City-wide effort is underway to address the cumulative effects of increased development on the City's combined sanitary sewer and storm water system. The San Francisco Public Utilities Commission (PUC) has analyzed potential revisions to drainage patterns for the City's Bayside (City and County of San Francisco, Public Utilities Commission, 1998b). The analysis includes drainage patterns for HPS reuse under two scenarios: an upgraded separate sewer and storm water system (Option 2) and a combined storm water/sewer system where there would be no direct storm water discharge (Option 3).

The purpose of the PUC Bayside study is to evaluate the effects of several reasonably foreseeable development projects on the City's Bayside wastewater control facilities. Besides HPS reuse, other specific cumulative development projects analyzed in the Bayside study include the Mission Bay project, Candlestick Point Stadium and Retail/Entertainment Center project, and other waterfront/Port property development, as well as general cumulative development in the City as projected by ABAG.

Flows are estimated for discharges to the Bay for the City's entire Bay shoreline (hereafter identified as "total Bayside"). These flows include treated wastewater and combined sewer overflows only and do not include direct storm water discharges to the

Bay. The PUC Bayside study also analyzed cumulative impacts on the 1,469-acre (595-ha) Yosemite drainage basin.

Options 1 and 2 would have a negligible effect on CSO volumes and would perpetuate existing storm water discharges to the Bay. The PUC Bayside study indicates that, compared with existing conditions, storm water discharged directly to the Bay would be reduced under Option 3. However, this option would increase the total volume of wastewater plus storm water discharged to the City's combined sewer system and would change the volume of CSOs. These effects are described below and are summarized in Table 4.9-1.

Bayside Base Case

In the PUC's Bayside study, the "base case" provides a baseline for comparison that resembles existing conditions but also includes projects such as the Giants ballpark and the Sunnydale flood control project. Under the base case, the total Bayside wastewater/combined sewer flow is estimated at an annual average of 31,113 million gallons per year (mgy) (117,800 million liters a year). Total annual average Bayside CSOs are estimated at 910 mgy (3,444 million liters a year), or about 2.9 percent of overall flows. About 5.3 million gallons (20 million liters) of these CSOs are from the Yosemite basin, including HPS. The long-term average number of CSOs in the Yosemite basin is one a year.

Bayside Base Case Plus Proposed Reuse Plan with Separate System (Option 1 or 2)

Implementing the Proposed Reuse Plan under a separate system would increase total annual average wastewater (i.e., treated effluent) discharges to the Bay along the Bayside by 0.49 percent (147 mgy [556 million liters a year]) as compared to the base case (Table 4.9-1). The frequency and duration of CSO events would not change or would be less than can be predicted by the Bayside model. Bayside CSO volumes would increase by 0.07 percent (0.6 mgy [2.3 million liters a year]) compared to the base case. Storm water discharges to the Bay would remain the same or would decrease by about 5.4 percent if the overall amount of paved surfaces is reduced, as anticipated with reuse.

Bayside Base Case Plus Proposed Reuse Plan with Combined System (Option 3)

Implementing the Proposed Reuse Plan using a combined system would increase by 1.1 percent the total average wastewater (i.e., treated effluent) discharged as compared to the base case. The annual CSO discharges in the Yosemite basin would increase by 34 percent over the base case, and overall Bayside CSO volumes would increase by 4.5 percent. However, storm water would not be discharged directly to the Bay under this scenario.

TABLE 4.9-1:
CHANGES IN EFFLUENT, CSO, AND STORM WATER VOLUMES

	Bayside Base Case (Existing Conditions)	Bayside Base Case + Proposed Reuse Plan with Separate System (Option 1 or 2)		Bayside Base Case + Proposed Reuse Plan with Combined System (Option 3)		Cumulative Bayside + Proposed Reuse Plan with Separate System (Option 1 or 2)		Cumulative Bayside + Proposed Reuse Plan with Combined System (Option 3)	
	Flow Volume	Flow Volume	Change from Existing (%)	Flow Volume	Change from Existing (%)	Flow Volume	Change from Existing (%)	Flow Volume	Change from Existing (%)
Total Treated Effluent (mgy)	30,203	30,350	0.49%	30,537	1.1%	31,312	3.7%	31,496	4.3%
Total Bayside CSOs (mgy)	910	910.6	0.07%	951	4.5%	965	6.0%	1,008	11%
Yosemite Basin CSOs (mgy)	5.3	5.3	0%	7.1	34%	6.7	26%	7.3	38%
Total Bayside Flow[1] (mgy)	31,113	31,261	0.5%	31,488	1.1%	32,277	3.7%	32,504	4.5%
% of Flow Treated Secondary	87.3%	87.4%	—	87.0%	—	87.0%	—	86.9%	—
Primary	9.7%	9.7%	—	10.0%	—	10.0%	—	10.0%	—
Storm Water Flow (mgy)	240	227	(5.4%)	0	NA	227	(5.4%)	0	NA

Source: City and County of San Francisco, Public Utilities Commission, 1998b.

Notes:
mgy = millions gallons per year
NA = Not Applicable
[1] Total Bayside Flow is the sum of Total Effluent and Total Bayside CSOs.
( ) indicates a negative number.

Cumulative Bayside Plus Proposed Reuse Plan

Implementing the Proposed Reuse Plan using a separate system, when combined with other cumulative projects, would result in a 3.7 percent increase in cumulative discharges of treated effluent to the Bay. Of the projected 3.7 percent (1,109 mgy [4,198 million liters a year]) increase, about 147 mgy (556 million liters a year), or 13 percent, would be attributable to increases in dry-weather flow at HPS. Overall Bayside CSO volumes would increase by 6.0 percent over the base case, of which 2.0 mgy (7.6 million liters a year), or 3.6 percent of the cumulative increase of 55 mgy (208 million liters a year), would be attributable to dry-weather flows at HPS. Cumulative CSOs to the Yosemite basin would increase by 26 percent compared to the base case, although none of this increase would be attributable to HPS.

Implementing the Proposed Reuse Plan using a combined system under the cumulative development scenario would increase total annual flows of treated effluent to the Bay from the entire Bayside by 4.3 percent (1,293 mgy [4,894 million liters a year]) over the base case. Bayside CSO volumes would increase by 11 percent over the base case, and CSOs to the Yosemite basin would increase by 38 percent over the base case. Overall, in this scenario, HPS would contribute about 26 percent of the projected cumulative increase in treated effluent and 46 percent (107 mgy [405 million liters a year]) of the projected increase in cumulative Bayside CSO volumes.

Significant and Mitigable Impact

Impact 1: Discharges of Treated Combined Sewer Overflows. As described in Section 3.9, CSOs are an accepted and permitted feature of the City's combined sewer system and occur, on average, about once per year in the HPS area, when the treatment and storage capacity of the City's combined sewer system is exceeded in rainy weather. CSOs receive primary treatment and consist of about 94 percent storm water and 6 percent sanitary sewage.

Within regulatory constraints related to quantity and quality, CSOs have not been shown to adversely affect water quality or aquatic biota, but they can affect beneficial uses when they raise concentrations of bacteria in water and result in the posting of beaches to prohibit water-contact recreation. While no fishing or water-contact recreation is permitted at HPS, and none is proposed in the future under the Proposed Reuse Plan, these activities do occur nearby at the Candlestick Point State Recreation Area. CSOs also generate a high degree of public concern, and recent wastewater planning efforts at Mission Bay have focused on measures to eliminate that project's potential contribution to cumulative increases in CSOs.

Improving or replacing the existing separated storm water system at HPS (Option 1 or 2) would have no effect on the volume and frequency of CSOs. Even with these options, however, the Proposed Reuse Plan would result in increased activity at HPS, which would result in increased sewage (dry-weather flow) that would be conveyed to the SEWPCP for treatment and discharge. These dry-weather flows would result in a 0.49 percent (147 mgy [556 million liters a year]) increase in discharges of treated effluent, which would in turn result in a 0.07 percent (0.6 mgy [2.3 million liters a year]) increase in CSO volumes during wet weather. This increase in CSO volumes would be negligible, both in the context of existing discharge volumes and in terms of their contribution to the projected cumulative increases in CSO volumes. Redeveloping HPS with a combined sewer system (Option 3) would increase Bayside CSO volumes by 41 mgy (155 million liters a year), an increase of 4.5 percent over the base case, primarily due to the introduction of HPS storm water flows to the City's combined sewer system. This projected increase in CSO volumes would represent a substantial percentage (about 46 percent) of the overall cumulative increases in CSO volumes (about 11 percent) projected as a result of Bayside development. The cumulative increase in CSO volumes at outfalls in the Yosemite basin (about 38 percent) would have the potential to negatively affect beneficial uses at Candlestick Point State Recreation Area if it would increase the number of days that water-contact recreation and other activities are prohibited. The potential duration of beach closings and pollutant loading increases (due to increases in CSOs and treated effluent) and decreases (due to the elimination of direct storm water discharges) have not been calculated.

The Proposed Reuse Plan's contribution to CSO volumes projected under Option 3 would be considered a significant impact. This impact could be mitigated by implementation of Mitigation 1. This mitigation measure would also provide the opportunity to reduce the less than significant increased flows projected under Options 1 and 2.

Mitigation 1. Eliminate projected increases in CSO volumes caused by storm water discharges to the City's combined system by upgrading or replacing the separated sewer system at HPS (Option 1 or 2). Also consider ways to offset nonsignificant increases in CSO volumes attributable to sanitary flows. Arrange for the PUC to condition permits issued for groundwater discharge to the City's combined sewer system, so that discharges do not occur in wet weather when overflows are anticipated to occur. Implementing these measures would reduce this impact to a less than significant level.

Less Than Significant Impacts

Discharges of Storm Water. An estimated 240 mgy (908 million liters a year) of storm water are currently discharged via the separated storm water system at HPS. In addition, storm water flows overland to the Bay and causes localized flooding when the system's capacity is exceeded. These conditions would be perpetuated by Option 1.

Under Option 2, the new separated system would have a greater capacity than the existing system (or Option 1) and would be designed to minimize overland flow and resolve flooding problems. Volumes of storm water discharges would remain roughly the same, however, or decrease slightly if the removal of paved surfaces increases rainwater infiltration, as expected. Under Option 3, storm water discharges at HPS would be eliminated or substantially reduced.

As explained in Section 3.9, existing storm water discharges from HPS do not receive treatment and have been reported to contain industrial pollution, including hydrocarbons, total suspended solids (TSS), zinc, copper, lead, and nickel. Remediation under the CERCLA Installation Restoration Program (IRP) is expected to decrease the concentrations of pollutants in storm water discharges, improve the quality of storm water discharges, and improve sediment quality adjacent to HPS.

The quality of future storm water discharges will depend on the nature of future land uses and on the effectiveness of water quality control measures. Specific future uses are largely unknown at this time.

Storm water discharges from HPS are currently permitted under an NPDES General Industrial Permit issued by the RWQCB. Under the Proposed Reuse Plan, the City would be required to adhere to the transfer provisions in the General Industrial Permit, which regulate current and future uses and require preparation and adherence to a Storm Water Pollution Prevention Plan (SWPPP). It is unknown to what extent storm water quality would improve in the future as a result of remediation activities, new land uses, permit conditions, and control measures. However, the following regulatory requirements could ensure that this potential impact would be less than significant.

- Develop and implement a SWPPP that includes provisions for controlling soil migration off site (e.g., silt fences, settling units) during periods of runoff and for monitoring possible sources of industrial contaminants.
- Implement BMPs such as public education and outreach, pollution prevention, and good housekeeping.

In addition, the City has committed to requiring the construction of storm water retention and treatment areas on site to improve the quality of discharges to the Bay. The SWPPP will specify locations of appropriate areas for storm water infiltration and identify drainage patterns to direct storm water towards them. No mitigation is required.

Discharges of Municipal Wastewater Effluent (Dry-Weather Flows). Dry-weather flows (sanitary sewage only) of 0.67 million gallons per day (mgd) (2.5 million liters a day) would approximately double existing sewage flows from HPS. When added to average dry-weather flows of 65 to 70 mgd (246 to 265 million liters a day) at the treatment plant, total flows would be well within the plant's peak dry-weather capacity (150 mgd [568 million liters a day]). The project's contribution to wet-weather flows is addressed under "Discharges of Storm Water" above.

Under Option 3, the increased volume of wastewater effluent would not only be attributable to dry-weather flows but also to the project's increase in storm water flows to the City's combined sewer system. Annual increases in wastewater effluent would be about 334 million gallons (1,264 million liters), or about 1.1 percent more than base case conditions.

The increase in treated wastewater flows from the SEWPCP resulting from effluent generated by the Proposed Reuse Plan (under all three options) would be about 1 percent or less.

Existing tenant operations at HPS include a variety of uses, such as storage space, art studios, machine workshops, and automobile restoration garages. Based on a comparison of land uses, the projected HPS waste stream is not expected to substantially worsen in terms of pollutant concentrations, compared to the site's current waste stream flowing to the plant. A water quality analysis conducted for the Mission Bay project indicated that effluent flow increases of two to three percent would not conflict with allowable pollutant loadings from the plant, RWQCB Bay water quality objectives, or U.S. EPA National Ambient Water Quality Criteria (NAWQC). Therefore, under the Proposed Reuse Plan, the one percent or less increase in effluent discharge from the SEWPCP would not be likely to adversely affect compliance with these objectives. As explained in Section 3.9, the City's discharge of treated effluent to the Bay has not been shown to have significant adverse impacts on deep-water quality in the Bay. No mitigation is required.

Introduction of Pollutants to Groundwater. No impacts on groundwater quality would be anticipated as a result of reuse, as described in Section 4.7. The Federal, state, and City government regulatory framework and infrastructure to protect groundwater resources remain applicable and would protect groundwater. No mitigation is required.

Reduced Development Alternative

Significant and Mitigable Impacts

Impact 1: Discharges of Treated Combined Sewer Overflows. Under Options 1 and 2, cumulative CSOs generated by the Reduced Development Alternative would be similar to the base case. Under Option 3, CSO volumes would increase, as under the Proposed Reuse Plan. This is considered a significant and mitigable impact.

Mitigation 1. Implement Mitigation 1 identified for the Proposed Reuse Plan.

Less Than Significant Impacts

Discharges of Storm Water Pollutants. The changes in storm water runoff generated by the Reduced Development Alternative would be similar to those under the Proposed Reuse Plan. This increase would result in a less than significant water quality impact, as described for the Proposed Reuse Plan. No mitigation is required.

Discharges of Municipal Wastewater Effluent (Dry-Weather Flows). Development under this alternative would be less intense than under the Proposed Reuse Plan, resulting in substantially less dry-weather sewage generation (0.23 mgy [0.87 million liters a year] compared with 0.67 mgy [2.5 million liters a year]). This level of sewage generation is very similar to existing sewage generated at HPS (0.25 to 0.30 mgd [0.9 to 1.1 million liters a day]). Therefore, discharges of municipal wastewater effluent under the Reduced Development Alternative would have a less than significant water quality impact. No mitigation is required.

Introduction of Pollutants to Groundwater. As described for the Proposed Reuse Plan, no impacts on groundwater quality would be anticipated under the Reduced Development Alternative. No mitigation is required.

4.9.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. Navy's SWPPP would continue to be implemented, and no construction-generated storm water impacts would occur. Activities would comply with NPDES permit requirements. No significant water resources impacts are anticipated, and no mitigation is required.

4.10 UTILITIES

The ROI for utilities is the South Bayshore planning area.

Factors considered in determining whether an alternative would have significant impacts on utilities include the extent or degree to which its implementation would 1) increase utility demand to a level in excess of current or planned capacity for major utility system components, such as reservoirs, wastewater treatment plants, or landfills or 2) cause the utility provider to violate any applicable legal or regulatory environmental standard or requirement.

4.10.1 Navy Disposal

The disposal of Federal property at HPS out of Federal ownership would not result in direct impacts on utilities. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.10.2 City and County of San Francisco Reuse Alternatives

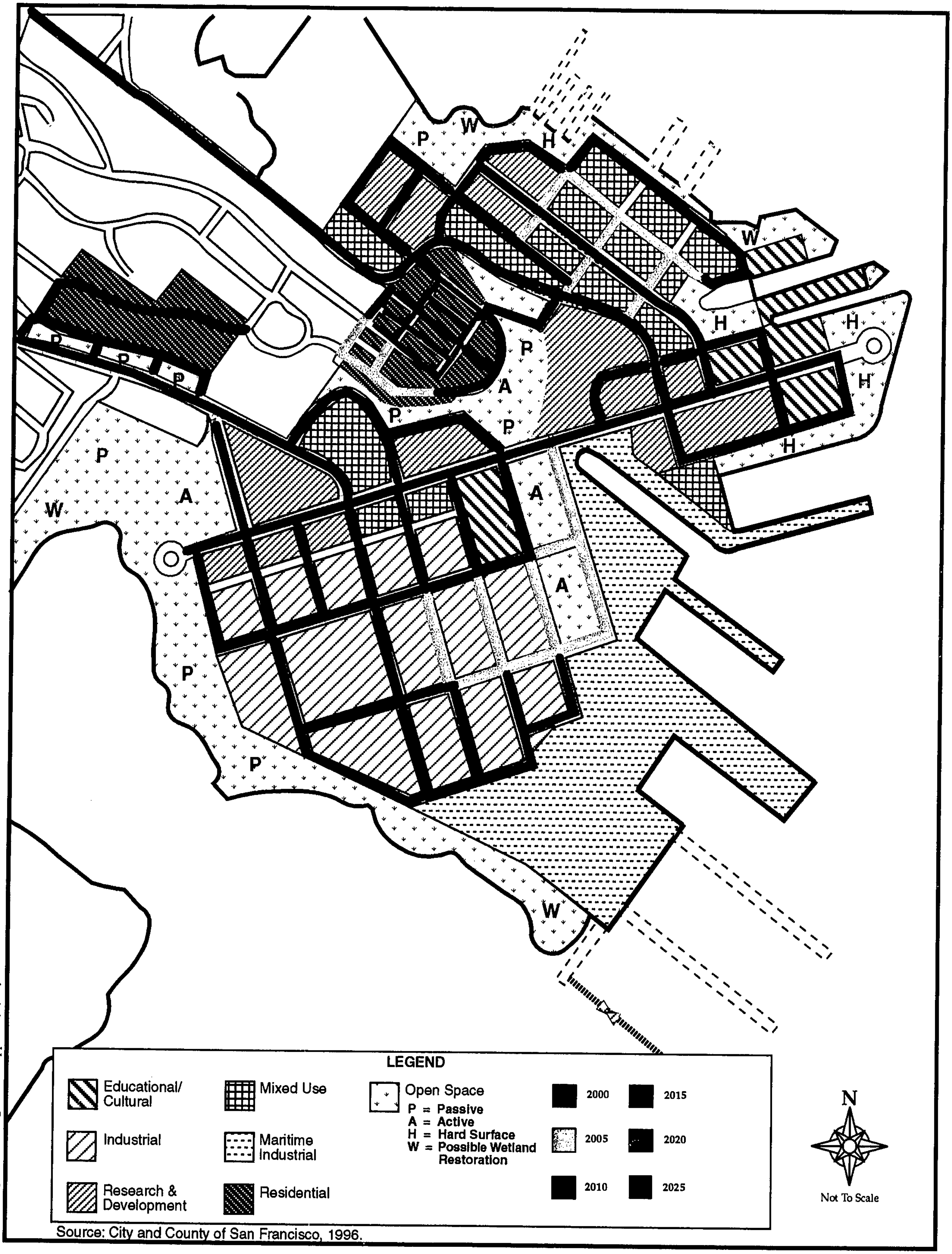
Proposed Reuse Plan

Suggested infrastructure improvements for HPS originally were outlined in the *Draft Hunters Point Shipyard Reuse Infrastructure Backbone Project Plan* (City and County of San Francisco, Department of Public Works, Bureau of Engineering, 1996). Under this plan, the utilities infrastructure at HPS would be replaced wholesale with new utilities designed to support the proposed development (City and County of San Francisco, 1996). While the Backbone Plan is described as the most comprehensive way to achieve necessary utilities upgrades, an incremental approach may be more feasible. Both the wholesale and the incremental approach are addressed, where applicable, below.

Under the Backbone Plan, an infrastructure backbone would be constructed for the entire site, including streets, median islands, sidewalks, gutters, traffic signing, irrigation systems and trees, electrical and lighting systems, alarm, auxiliary water supply systems and other fire protection work, sewer and storm water systems, gas mains, and electrical transmission lines. Utilities would be installed in phases before roadway or building construction, and individual site developers would be required to provide utility line connections along side streets and to their buildings. Figure 4.10-1 illustrates the utility infrastructure development plan for 2000 to 2025.

Less Than Significant Impacts

Potable Water Supply and Distribution System (Factor 1). Potable water demand at HPS would increase for consumption, irrigation, recreation, and fire prevention. Projections by the San Francisco Water Department indicate that the potable water supply would meet the City's needs until 2020. Potable water requirements under the Proposed Reuse Plan would represent a small percentage of the City's overall water demand. However,



Prod.:\14hpEIREIS\98 Figure\14115Fpp.fh7 6/9/99 JL

Figure 4.10-1: Draft SF Utility Infrastructure Phasing Plan because the potable water distribution system is approximately 55 years old and has deteriorated, it is inadequate to meet HPS water supply reuse requirements (City and County of San Francisco, Public Utilities Commission, 1998a).

As proposed under the Backbone Plan, replacing the potable water distribution system with a new system built to meet demands of proposed development would ensure the supply of safe potable water and adequate water pressure. As an alternative to wholesale system replacement, the City could implement incremental improvements, including the following:

- In the upper housing area, cap the water distribution system and drain and abandon the 410,000-gallon (1.5-million liter) tank.
- Locate, excavate, and repair valves and lines. Replace polyvinyl chloride (PVC) lines.
- Sample water at the point of consumption for chlorine, lead, and copper levels to ensure that it complies with the Safe Drinking Water Act (SDWA).
- Install backflow preventors at the two City service points.
- Inspect service points for cross connections and for exposure to contamination so problems can be remediated, if needed.
- Install water meters to measure quantities delivered.
- Require the use of equipment, devices, and practices that conserve water and provide for long-term efficient water use. Use drought-resistant or native plants, inert materials, and minimal turf areas.

Because these improvements would not require the construction of major new utility infrastructure, potential impacts attributable to the water distribution system are considered less than significant. No mitigation is required.

After property conveyance, the City would ensure that the domestic water system would operate in compliance with the SDWA, 42 U.S.C.A. §§ 300f to 300j-26 (West, 1991 and Supp. 1998). Currently, no California Department of Health Services (DOHS) permit is required to operate this system. However, following transfer, this system would be regulated under the City's DOHS permit; therefore, potential drinking water quality impacts would be less than significant. No mitigation is required.

Fire Protection/Saltwater Supply Systems (Factor 1). The potable water distribution system has insufficient pressure for fire protection in the former housing area. Hydrants throughout HPS also have pressures too low (2 to 3 pounds per square inch [0.9 to 1.4 kg per square cm]) for effective fire protection (U.S. Navy, 1998e) and are incompatible with City equipment (City and County of San Francisco, Public Utilities Commission, 1998a). In addition, the low-pressure saltwater system is inoperable. Inadequate fire protection capabilities could lead to increased fire hazards at HPS.

As proposed in the *Phasing Plan Draft* (City and County of San Francisco, 1996), the City plans to construct a new auxiliary water supply system to augment the water supply for fire-fighting purposes. As an alternative to constructing a new system, the City may, in the interim, upgrade the existing potable water distribution system and fire hydrants to meet fire-fighting needs. Because these improvements would not require construction of major new utility infrastructure, potential impacts attributable to inadequate fire protection capabilities would be considered less than significant. No mitigation is required.

Storm Water Collection System (Factor 1). There may be increases in storm water volumes in certain segments of the system because paved surfaces in parts of HPS would increase with reuse. For example, a portion of an existing open space area in the southern half of HPS is proposed for maritime industrial uses. However, most existing open space at HPS is either paved or hard-packed, and therefore any increase in paved surfaces generally would be offset by proposed landscaping.

As described in Section 4.9, the sanitary sewer and storm water drainage systems would be upgraded and maintained by the City (Option 1), replaced with a new separated system (Option 2), or replaced with a new combined sanitary/storm system that discharges to the SEWPCP (Option 3). Design details of these options have not been determined, and this analysis is by necessity programmatic in nature. Any one of these options could incorporate a variety of refinements, including additional treatment, storage, or alternative technologies for handling storm water. For example, the wetlands proposed for Parcel B may benefit from storm water discharges to that area.

Storm water system deficiencies could be exacerbated if runoff volumes increase in any portion of the system. Localized flooding and overland flow during rain events also could conflict with reuse efforts. If runoff volumes exceed planned capacities, the City would restrict the amount of paved surfaces at HPS for no net increase and install valves, gates, or duckbills at storm line discharge points to prevent tidal surges and movement of contaminated Bay Mud into the storm lines. These measures would not require construction of major new utility infrastructure, and therefore potential impacts attributable to storm water system deficiencies would be considered less than significant. No mitigation is required.

Sanitary Collection System (Factors 1 and 2). Wastewater flows (dry-weather flows) at HPS would increase incrementally over current levels as a result of increased activity. Total daily wastewater generation at HPS (dry-weather flows) would be approximately 0.67 mgd (2.5 million liters a day), an increase of 170 percent over existing dry-weather flows. (Future anticipated wet-weather flows are discussed in Section 4.9, Water

Resources.) Dry-weather flows generated under the Proposed Reuse Plan would not measurably affect the treatment capacity of the SEWPCP. Therefore, there would be less than significant impacts on the sanitary treatment system. Although the HPS sanitary collection system is deteriorated, the City plans to replace it with a new system, as described in Section 4.9. Because proposed improvements would not adversely affect or require construction of a major new utility component, such as a new wastewater treatment plant, this would be considered a less than significant impact. No mitigation is required.

Natural Gas System (Factor 1). Under the Proposed Reuse Plan, the demand for natural gas would increase at HPS. Pacific Gas and Electric (PG&E) would be responsible for installing and maintaining natural gas service lines and connections. Future installation of natural gas service lines would not affect any major utility infrastructure. Therefore, potential impacts would be considered less than significant. No mitigation is required.

Electrical System (Factor 1). The demand for electricity would increase under future land uses, such as industrial and commercial facilities, housing developments, and recreational projects. PG&E would be responsible for installing and maintaining electrical lines and connections. The City would be responsible for street lighting and lighting in other public areas. Significant service deficiencies are not anticipated. No mitigation is required.

Telephone Service (Factor 1). New telephone lines would be required to accommodate site development and changes in site configuration. Pacific Bell would provide service up to the terminal connection at the entrance to HPS. Significant service deficiencies are not anticipated. No mitigation is required.

Solid Waste Disposal (Factor 1). The amount of solid waste generated by HPS would depend on the extent and nature of development. Building demolition activities would generate approximately 79,160 tons (71,798 metric tons) of solid waste, whereas construction activities would generate approximately 7,540 tons (6,838 metric tons) of solid waste during the 25-year build-out period.

The estimated amount of solid waste[1] generated after build-out of the Proposed Reuse Plan in 2025 would be approximately 10,480 tons (9,505 metric tons) per year, representing an increase of 10,456 tons (9,484 metric tons) annually. This increase would be approximately one percent of the total solid waste generated in the City.

[1] The amount of solid waste was estimated using solid waste generation factors provided by the City and County of San Francisco Administrative Services, Solid Waste Management Program.

These projections for demolition, construction, and operational solid waste do not include potential reductions from recycling and, therefore, are conservative estimates.

The amount of solid waste generated during HPS construction, demolition, and occupancy would be reduced by implementing aggressive recycling programs. By 2000, it is estimated that 75 to 90 percent of waste generated from business in the City and at HPS will be recycled (City and County of San Francisco, 1995b). Therefore, solid waste generated by implementing the Proposed Reuse Plan would have a less than significant impact on the City's solid waste program. No mitigation is required.

Reduced Development Alternative

Under the Reduced Development Alternative, the amounts of potable water demand, storm water runoff, sewage, natural gas demand, electrical demand, telephone service demand, and solid waste would be less than under the Proposed Reuse Plan. For example, wastewater generation would be approximately 0.23 mgd (0.87 million liters per day) under the Reduced Development Alternative, compared to 0.67 mgd (2.5 million liters a day) under the Proposed Reuse Plan.

In addition, during construction, approximately 2,420 tons (2,195 metric tons) of solid waste[1] would be generated under the Reduced Development Alternative, compared to 7,540 tons (6,838 metric tons) under the Proposed Reuse Plan. During occupancy under the Reduced Development Alternative, approximately 4,050 tons (3,673 metric tons) per year of solid waste would be generated, whereas approximately 10,480 tons (9,505 metric tons) per year would be generated under the Proposed Reuse Plan.

The Reduced Development Alternative would require the same utilities improvements and would have the same less than significant impacts as discussed for the Proposed Reuse Plan.

4.10.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. No impacts on utilities are expected, and no mitigation is required.

4.11 PUBLIC SERVICES

The ROI for public services is HPS and the City.

Factors considered in determining whether an alternative would have significant impacts on public services include the extent or degree to which its implementation would require a level of service beyond the capability of the public service provider.

4.11.1 Navy Disposal

The disposal of Federal property at HPS out of Federal ownership would not result in any direct impacts on public services. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.11.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

Following disposal, City agencies would be solely responsible for providing public services to HPS. Law enforcement at HPS is currently under exclusive jurisdiction of Navy. Retrocession of jurisdiction would occur upon disposal, giving the San Francisco Police Department (SFPD) law enforcement responsibility.

Less Than Significant Impacts

Police Services. Less than significant adverse impacts on police services are expected from this reuse alternative. To meet the increased demand for law enforcement under the Proposed Reuse Plan, the SFPD would add a new patrol car and 14 officers to the Bayview Station (San Francisco Police Department, 1998). These additional officers represent only a 0.7 percent increase in the total number of SFPD officers and would be required immediately following retrocession of jurisdiction. Because the staffing and equipment requirements would be based on the property's geographic area, not on the number of employees and residents, the same number of officers would be required for both 2010 and 2025. Increased police services would be provided to meet projected needs. No mitigation is required.

Fire Protection Services. Less than significant adverse impacts on fire protection services are expected from this reuse alternative. To serve HPS, the San Francisco Fire Department (SFFD) likely would add a minor number of personnel to its staff. The location of HPS relative to off-site fire stations may require the SFFD to staff the on-base station. Because staffing and equipment requirements would be based on the property's geographic area, not on the number of employees and residents, these requirements would be the same in both 2010 and 2025.

The potential impact associated with insufficient water pressure to meet fire-fighting requirements is addressed in Section 3.10, Utilities. As proposed, the City would construct a new auxiliary water supply system to augment the water supply for fire-fighting purposes (City and County of San Francisco, 1996). However, as an alternative to constructing a new system, the City may, in the interim, upgrade the existing potable water distribution system and fire hydrants to meet fire-fighting needs. Increased fire-protection services would be provided to meet projected needs. No additional mitigation is required.

Emergency Medical Services. Less than significant adverse impacts on emergency medical services are expected from this reuse alternative. To serve HPS, the SFFD likely would add a minor number of paramedics to its staff. Paramedics would staff off-site SFFD fire stations or an on-base station. Because staffing and equipment requirements would be based on the property's geographic area, not on the number of employees and residents, these requirements would be the same in both 2010 and 2025. Increased emergency medical services would be provided to meet projected needs. No mitigation is required.

Reduced Development Alternative

Less than significant impacts on police, fire, and emergency medical services are anticipated from the Reduced Development Alternative. Because public service staffing and equipment requirements would be based on the property's geographic area, not on the number of employees and residents, impacts resulting from this alternative would be the same as those described for the Proposed Reuse Plan.

4.11.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. Navy would continue to be responsible for providing public services to HPS. No impacts on public services are expected, and no mitigation is required.

4.12 CULTURAL RESOURCES

The ROI for cultural resources is HPS. Cultural resources are those properties listed on or eligible for inclusion in the National Register of Historic Places (NRHP).

Factors considered in determining whether an alternative would have a significant impact on cultural resources include the extent and degree to which the implementation of an alternative would result in a substantial and adverse change in the characteristics that qualify the cultural resource for listing on the NRHP, to the extent that the resource would no longer qualify for listing.

As explained in Section 3.12, the Hunters Point Commercial Drydock Historic District and Drydock 4 have been determined eligible for inclusion in the NRHP by Navy in consultation with the State Historic Preservation Officer (SHPO). The Hunters Point Commercial Drydock Historic District includes Drydocks 2 and 3 and the supporting Buildings 204, 205, 140 and 207. Because of the mammoth amount of cutting and filling required to dig Drydock 4 (5 million cubic yards [3.8 million cubic m]) and to create the land on which HPS is located, there is only a remote chance that the archeological remains of the previous prehistoric and historic uses of Hunters Point have survived intact. All attempts to identify the location and find evidence of such deposits on the surface have failed. Nevertheless, should implementation of reuse plans require deep excavations, there is a remote potential for encountering intact archeology.

The disposal and reuse of HPS would affect the historic properties found eligible for inclusion in the NRHP. Therefore, Navy must comply with Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C.A. § 470f (West, 1985 and Supp. 1998), implemented by (36 the regulation for the "Protection of Historic Places" C.F.R. Part 800 [1998]). In accordance with these regulations, Navy has consulted with the SHPO, Advisory Council on Historic Preservation (ACHP), the City, and the San Francisco Redevelopment Agency. This consultation is designed to ensure that preservation interests are properly addressed in the planning for the disposal and reuse of HPS. The consultation led to the execution of a Memorandum of Agreement (MOA) on January 11, 2000, among Navy, ACHP, and SHPO, concurred in by the City and the San Francisco Redevelopment Agency, for the disposal and reuse of HPS (MOA reproduced in Appendix B). The MOA identifies the actions to be taken by Navy before property transfer and by the City and San Francisco Redevelopment Agency after transfer to ensure appropriate treatment of these cultural resources; it also accepts the fact that the Commercial Drydock Historic District has deteriorated to a condition from which it is no longer economically feasible to restore it. The MOA also accepts the fact that Drydock 4 can be preserved only as long as it can be economically used as a drydock. The MOA includes the following stipulations:

- Nomination of historic properties to the NRHP, which will permit commercial reuse developers to take advantage of the preservation tax credits.
- Documentation in accordance with the standards of the Historic American Building Survey (HABS) and Historic American Engineering Record (HAER) for the Commercial Drydock Historic District. (Drydock 4 has been recorded and accepted for filing in the Library of Congress by the National Park Service.)
- Collection, inventory, and preservation of historic artifacts and records, including photographs and building plans.
- Requirement for tenants of historic properties to follow the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (U.S. Department of the Interior, 1992) for maintaining or adapting the historic properties for use.
- Requirement for consultation with the San Francisco Landmarks Advisory Board and the Certified Local Government to ensure that adaptive reuse of historic properties and adjacent new development conform to the provisions of the *Hunters Point Shipyard Redevelopment Plan, Design for Development*, and the State Historic Building Code after the property is transferred out of Federal ownership.
- Identification of archeologically sensitive areas, so that proper precautions would be taken by subsequent developers to ensure that their excavations provide proper treatment of any archeological material discovered during construction.

4.12.1 Navy Disposal

The transfer of the Commercial Drydock Historic District and Drydock 4 from Federal ownership would have no direct physical effect on these historic resources. The Proposed Reuse Plan and the Reduced Development Alternative propose the adaptive use of these historic resources. The fact that they would lose most of the protection provided by Federal historic preservation legislation has been taken into account through compliance with Section 106 of the NHPA. Implementation of the MOA that resulted from that process compensates for that loss. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal.

4.12.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

Many of the objectives and supporting policies contained in the Proposed Reuse Plan address the need to conserve and enhance historic resources at HPS. Applicable objectives and policies of the Proposed Reuse Plan related to cultural resources include the following:

Objective 11: Urban Design and Preservation

Create an attractive and distinctive visual character for HPS that respects and enhances natural features, the history, and the vision for mixed-use site development oriented towards arts and industrial uses.

Objective 12: Urban Design and Preservation

Conserve and enhance existing historic resources that provide continuity with the community's history and culture.

- Policy 2: Consider the preservation and potential adaptive reuse of historic buildings and structures around Drydocks 2 and 3 as a focus of the arts/cultural and mixed-use district.
- Policy 5: Consider the preservation and potential adaptive reuse of Drydock 4.
- Policy 6: Apply the nationally established and locally adopted Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (U.S. Department of the Interior, National Park Service, 1992) for the reuse of all buildings designated eligible for listing on the National Register of Historic Places and any other standards as set forth in state or City legislation.

Historic structures are specifically featured in the Lockwood Landing Area Urban Design Plan, which is included in the *Design for Development*.

Less Than Significant Impacts

Alteration or Demolition of Historic Resources. It is anticipated that historic buildings and structures within the Hunters Point Commercial Drydock Historic District would be rehabilitated and reused. Drydock 4 is currently leased and is expected to continue to be used in the ship breaking and repair business.

The alteration or demolition of historic resources would be less than significant because the MOA requires consultation with the City's Landmarks Preservation Advisory Board and the Planning Department under the provisions of the Certified Local Government designation to ensure such development is consistent with the provisions of the *Hunters Point Shipyard Redevelopment Plan* (San Francisco Redevelopment Agency, 1997), the *Design for Development* (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1997c), and the State Historic Building Code. The Proposed Reuse Plan, *Hunters Point Shipyard Redevelopment Plan*, and associated *Design for Development* include requirements for retaining the historical resources described in Section 3.12. The MOA requires that alterations that affect the historic resources be implemented according to the Secretary of the Interior's *Standards for*

Rehabilitation and Guidelines for Rehabilitating Historic Buildings. No mitigation is required.

Incompatible New Construction. Implementing the Proposed Reuse Plan likely would result in new construction within the historic district or adjacent to identified historical resources. This construction could introduce visual, audible, or atmospheric elements that are out of character with the historic property or that alter its setting.

The introduction of incompatible new construction would be less than significant, because the MOA requires consultation with the City's Landmarks Preservation Advisory Board and the Planning Department under the provisions of the Certified Local Government designation to ensure such development is consistent with the provisions of the *Hunters Point Shipyard Redevelopment Plan*, the *Design for Development*, and the State Historic Building Code. The Proposed Reuse Plan calls for creating an attractive and distinctive visual character for HPS that respects and enhances the natural features, the history, and the vision for mixed-use development oriented toward arts and industrial uses (Objective 11). It further states that the structures around Drydocks 2 and 3 will be the focus of the arts/cultural and mixed-use district (Objective 12, Policy 2). The MOA requires that construction comply with applicable provisions of the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. No mitigation is required.

Loss of Unidentified Archeological Resources. Ground disturbance during construction or demolition activities could unearth subsurface prehistoric and historic archeological resources. However, because the filled area at HPS has been extensively disturbed, it is highly unlikely that archeological resources that would qualify for listing on the NRHP would be discovered during excavation.

As set forth in the MOA, project contractors would be made aware of the potential for discovery of archeological resources so that such resources, if discovered, would be properly treated in accordance with state law and local ordinances. Therefore, potential impacts would be less than significant. No mitigation is required.

Deterioration of Historic Properties. Implementing the Proposed Reuse Plan would increase the level of activity at HPS and is expected to include rehabilitation and reuse of identified historic properties. City/San Francisco Redevelopment Agency funding would not be available to maintain historic properties, so the attraction of private developers or leasees for these properties would be necessary to ensure that they do not deteriorate further. While historic properties risk deterioration until reuse is accomplished, this accomplishment is the goal of the Proposed Reuse Plan. Therefore, no significant impact is anticipated. No mitigation is required.

Reduced Development Alternative

Under this alternative, there would be similar less than significant impacts on cultural resources, similar to those under the Proposed Reuse Plan.

4.12.3 No Action Alternative

Under the No Action Alternative, HPS would close but would remain Federal property under caretaker status and would not be reused or redeveloped. Under caretaker status, minimal activities needed to maintain the property and buildings would be conducted. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions.

As long as the property remains under Navy control and jurisdiction, each action that affects a National Register resource will be reviewed under the requirements of Section 106 of the NHPA. Such reviews will conform to implementing regulations, 36 C.F.R. Part 800 (1998), that require consideration of alternatives to adverse actions, in consultation with the SHPO, ACHP, and other interested parties. While such review would not ensure preservation of the affected NRHP resources, it would ensure that preservation alternatives are considered. If a building or structure identified as contributing to the NRHP-eligible historic district were to be demolished or substantially altered, it would be recorded to the standards of the HABS or HAER, as appropriate, for filing with the Library of Congress by the National Park Service. Archeologically sensitive areas would remain under the control and jurisdiction of Navy, which would be responsible for complying with Section 106 and its implementing regulations prior to ground disturbance.

4.13 BIOLOGICAL RESOURCES

The ROI for biological resources includes HPS and areas of native habitat within a half mile (0.8 km) of the facility, including Yosemite Slough, Candlestick Point State Recreation Area, Bayview Park, and Pier 98.

Factors considered in determining whether an alternative would have significant impacts on biological resources include the extent or degree to which its implementation would 1) affect sensitive habitats, such as wetlands, 2) change the distribution or reduce the population of nonpest feral species of fish, wildlife, or plant, 3) adversely impact any species listed as endangered, threatened, or rare under Federal or state law, or 4) degrade or destroy habitat critical to the continued existence of any endangered, threatened, or rare species.

4.13.1 Navy Disposal

The disposal of Federal property at HPS out of Federal ownership would not result in any direct impacts on sensitive or nonsensitive species or habitats. However, the direct impacts of reuse, described below, would be the indirect impacts of disposal. Impacts on ecological receptors from remediation activities are discussed in Section 4.7, Hazardous Materials and Waste. The disposal of Federal property at HPS would convey property containing sensitive habitat found in wetlands to non-Federal entities. Pursuant to Executive Order 11990, 42 Fed. Reg. 26961 (1977), Navy would reference in the conveyance documents any uses restricted under Federal, state, or local wetlands regulations and include other appropriate restrictions on future property uses.

4.13.2 City and County of San Francisco Reuse Alternatives

Proposed Reuse Plan

Significant and Mitigable Impacts

Impact 1: Increased Human Activity Near Sensitive Habitats (Factors 1 and 2). There are six small, unconnected tidal and nontidal wetlands along the Bay at HPS. In total, the wetlands occupy less than 10 acres (4 ha). These wetlands, along with the mudflats and aquatic habitats at HPS, nearby Candlestick Point Recreation Area, and Pier 98, provide some of the most valuable habitat for waterfowl and shorebirds along the western shore of the central Bay. Four small wetland areas would be developed at HPS under the Proposed Reuse Plan, providing additional habitat for waterfowl, shorebirds, and aquatic wildlife.

Implementation of the Proposed Reuse Plan would increase activity at HPS, increase public access, and extend trails along the waterfront. This access would increase human and domestic animal activity along the HPS shoreline. The increased activity could reduce the wetlands' habitat value for waterfowl and shorebirds and potentially cause inadvertent take of migratory bird individuals, nests, or eggs (in violation of the Migratory Bird Treaty Act of 1972). An increase in the number of people using these areas also could increase disturbances to sensitive wetland habitats. Disturbances could result directly from individuals going off-trail and indirectly from noise and movement. Similarly, an increase in uncontrolled domestic animal activity could directly impact wetland-dependent species by increasing losses from predation.

Mitigation 1. Place barriers along the Bay side of trails to reduce human and domestic animal disturbances to sensitive wetland habitats. Design barriers so that wildlife cannot hear or see people from foraging areas and so that people cannot easily leave trails to enter sensitive wildlife areas. In addition, develop and implement a public access program to include fencing sensitive areas, posting signs, and imposing leash requirements to further reduce disturbance to wetland areas. Implementing these measures would reduce this potential impact to a less than significant level.

Impact 2: Increased Litter (Factors 2 and 3). Implementation of the Proposed Reuse Plan would increase activity along the HPS shoreline and could increase the likelihood of litter. Litter blown or thrown into wetlands or the Bay would pose a choking and feeding hazard to aquatic wildlife and shorebirds.

Mitigation 2. Provide adequate trash receptacles along public access areas. Ensure pick-up and trash receptacle maintenance on a regular basis. Implementing these measures would reduce this potential impact to a less than significant level.

Less Than Significant Impacts

Increased Runoff into Sensitive Habitats (Factor 1). HPS reuse would be subject to California Department of Fish and Game (CDFG) wetland policies and the Clean Water Act (CWA), as well as state and local regulations. Compliance with these regulations would reduce potential impacts to a less than significant level. No mitigation is required.

Additional Waterfowl and Shorebird Habitats (Factor 1). Developing four proposed wetland areas at HPS would provide additional habitat for waterfowl, shorebirds, and aquatic wildlife. This is considered a beneficial impact. To maximize these beneficial biological effects, design and construct the proposed wetlands to contain functions and values similar to those exhibited by existing wetlands. No mitigation is required.

Nonlisted Sensitive Species and Common Wildlife (Factor 2). No significant impacts on nonsensitive species and species with lesser protections, including common wildlife, are expected to occur, because a substantial number of individuals of any population of these species are unlikely to be notably affected by proposed reuse activities. No mitigation is required.

Threatened or Endangered Avian Species (Factors 3 and 4). As described in Section 3.13, sensitive avian species, such as the peregrine falcon, western snowy plover, California clapper rail, California black rail, brown pelican, California least tern, and Swainson's hawk, may pass through or occasionally forage at or near HPS. However, no potential nesting habitat was found for these avian endangered or threatened species at HPS. Foraging opportunities would remain in open space areas. Therefore, no significant impacts on these species would be expected to occur from reuse activities, with the possible except of increased litter, which is addressed in Impact 1 above. No mitigation is required.

Threatened or Endangered Fish Species (Factors 3 and 4). Sensitive fish species, such as chinook salmon and steelhead trout, may infrequently transit the waters off the HPS shoreline during migration periods. However, there is no critical offshore habitat for these species at HPS or in offshore areas of the ROI. Therefore, no significant impacts on these aquatic species would be expected to occur from reuse activities. No mitigation is required. (Also see Section 4.9, Water Resources.)

Reduced Development Alternative

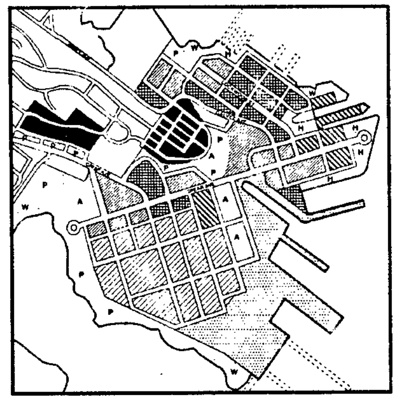
Although less intense development would occur under the Reduced Development Alternative, the impacts on biological resources and the recommended mitigations would be the same as those described for the Proposed Reuse Plan.

4.13.3 No Action Alternative

Under the No Action Alternative, HPS would remain a closed Federal property under caretaker status and would not be reused or redeveloped. No new leases would be entered into under the No Action Alternative. Existing leases (listed in Appendix C) would continue until they expire or are terminated. Navy could decide to renew or extend some or all of these leases. Environmental impacts associated with the renewal or extension of existing leases would be evaluated before making such decisions. No impacts on biological resources are expected, and no mitigation is required.

This page intentionally left blank.

5 Other Considerations



CHAPTER 5: OTHER CONSIDERATIONS

CONTENTS PAGE

5. OTHER CONSIDERATIONS 5-1

5.1 Cumulative Impacts 5-1

5.2 Unmitigable Adverse Impacts 5-8

5.3 Irreversible/Irretrievable Commitments of Resources 5-9

5.4 Short-Term Uses and Long-Term Productivity 5-9

5.5 Environmental Justice 5-10

5.6 Protection of Children from Environmental Health Risks and Safety Risks 5-14

5. OTHER CONSIDERATIONS

This chapter addresses additional topics required specifically by the National Environmental Policy Act (NEPA) to be included in an Environmental Impact Statement (EIS). These include cumulative impacts; unmitigable adverse impacts; irreversible and irretrievable commitments of resources; and the relationship between short-term uses and long-term productivity of the environment. This chapter also presents issues related to Environmental Justice, in accordance with Executive Order 12898, 59 Fed. Reg. 7629 (1994), and issues related to the Protection of Children from Environmental Health Risks and Safety Risks, in accordance with Executive Order 13045, 62 Fed. Reg. 19885 (1997).

5.1 CUMULATIVE IMPACTS

Cumulative impacts are individual effects that, when considered together, could create a collective impact that is significant. Such individual effects include closely related past, present, and reasonably foreseeable future projects. There are two approaches for assessing cumulative effects. The first method is a list-based approach, which considers past, present, and reasonably foreseeable future projects that produce related or cumulative impacts. The second method is projections-based and uses a summary of projections contained in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions. The projections-based method is generally used by the City and County of San Francisco (City) in evaluating projects within its jurisdiction, and this method has been used in this EIS.

5.1.1 Regional Projections

Cumulative impacts were assessed using growth forecasts for 2010 developed by the Association of Bay Area Governments (ABAG). Projections are based on anticipated land use and demographic patterns described in ABAG's *Projections '94* report, as reflected in the Metropolitan Transportation Commission's (MTC's) travel forecast model. ABAG has since produced its *Projections '96* and *Projections '98* reports, and the San Francisco Redevelopment Agency has completed an effort to revise City-wide projections of future growth based on its own assessment of foreseeable development by analysis year 2015. Table 5.1-1, Table 5.1-2, and Table 5.1-3[1] compare some of these projections.

[1] The San Francisco Redevelopment Agency's cumulative projections are described in a background report that is available for review at the San Francisco Planning Department and the San Francisco Redevelopment Agency. The San Francisco Redevelopment Agency's cumulative scenario is similar in some ways to ABAG *Projections '98* and is used in lieu of ABAG projections for analyzing major projects within San Francisco. For example, the Mission Bay analysis and the Third Street Light Rail Transit (LRT) project analysis were both based on the San Francisco Redevelopment Agency's cumulative scenario.

TABLE 5.1-1: COMPARISON OF CITY-WIDE CUMULATIVE GROWTH PROJECTIONS

	ABAG PROJECTIONS '94		ABAG PROJECTIONS '98			SAN FRANCISCO REDEVELOPMENT AGENCY CUMULATIVE	
	1995	2010	1995	2015	2020	1995	2015
Employment	394,200	441,600	534,610	663,900	679,654	543,600	665,300
Population	766,300	819,000	751,700	801,400	793,394	759,900	819,500

Sources: ABAG, 1993, 1997; San Francisco Redevelopment Agency, 1997b, 1998c.

TABLE 5.1-2 PROJECTED POPULATION IN THE HPS AREA

Traffic Analysis Zone (TAZ)	ABAG '94 (2010)	ABAG '96 (2015)	94-96 Δ	'96/'94	SAN FRANCISCO REDEVELOP-MENT AGENCY '97 (2015)	94-97 Δ	'97/'94	96-97 Δ	'97/'96
367	9,258	7,570	-1,688	82%	7,571	-1,687	82%	+1	100%
368	4,755	3,227	-1,528	68%	5,844	+1,089	123%	+2,617	181%
369	16,216	14,653	-1,563	90%	14,678	-1,538	91%	+25	100%
370	20	630	+610	3150%	237	+217	1185%	-393	38%
371	13,053	12,216	-837	94%	12,405	-648	95%	+189	102%
Subtotals	43,302	38,296	-5,006	88%	40,735	-2,567	94%	+2,439	106%
372	19,717	19,772	+55	100%	N/A	N/A	N/A	N/A	N/A
542	19,214	19,893	+679	104%	N/A	N/A	N/A	N/A	N/A
Totals	82,233	77,961	-4,272	95%	N/A	N/A	N/A	N/A	N/A

Sources: ABAG, 1993, 1995; San Francisco Redevelopment Agency, 1997b, 1998c.

TABLE 5.1-3 PROJECTED EMPLOYMENT IN THE HPS AREA

TAZ	ABAG '94 (2010)	ABAG '96 (2015)	94-96 Δ	'96/'94	SAN FRANCISCO REDEVELOP-MENT AGENCY '97 (2015)	94-97 Δ	'97/'94	96-97 Δ	'97/'96
367	7,727	7,046	-681	91%	13,592	+5,865	176%	+6,546	193%
368	2,075	2,026	-49	98%	6,108	+4,033	294%	+4,082	301%
369	4,738	4,584	-154	97%	4,346	-392	92%	-238	95%
370	23,805	23,373	-432	98%	20,754	-3,051	87%	-2,819	89%
371	6,172	5,972	-200	97%	5,005	-1,167	81%	-967	84%
Subtotals	44,517	43,001	-1,516	97%	49,805	+5,288	112%	+6,804	116%
372	1,737	1,698	-39	98%	N/A	N/A	N/A	N/A	N/A
542	1,615	1,670	+55	103%	N/A	N/A	N/A	N/A	N/A
Totals	47,869	46,369	-1,500	97%	N/A	N/A	N/A	N/A	N/A

Sources: ABAG, 1993, 1995; San Francisco Redevelopment Agency, 1997b, 1998c.
Δ = Change in parameter over the years indicated
N/A = Not Available or Not Applicable
TAZ = Travel Analysis Zone

Table 5.1-2 shows projected population in the HPS area based on Traffic Analysis Zones (TAZs). The TAZ is the basic geographic unit of a travel demand model system. It is a homogeneous geographical area where traffic trips are produced or attracted. The MTC travel model is composed of 721 TAZs for the 9-county San Francisco Bay Region. The MTC TAZs are consistent with Census Bureau geographical units (census tracts) and vary in size based on tract size and number and land use intensity. A map identifying specific TAZs in the HPS project vicinity is included in Appendix B, Figure B-2.

As shown in Table 5.1-2, population projections for *Projections '94* (forecast year 2010), compared to the San Francisco Redevelopment Agency data (forecast year 2015), indicate that about six percent fewer people are projected to be living in the Hunters Point Shipyard (HPS) area (TAZs 367 through 371) by build-out than contemplated in this EIS. Because the area is likely to grow more slowly than anticipated, population-generated cumulative impacts described herein probably are somewhat overstated.

Table 5.1-3 compares employment projections from the same sources discussed above. According to the San Francisco Redevelopment Agency data for 2015, employment in the area is predicted to be approximately 12 percent higher (5,288 more jobs) than earlier thought. Some portion of this increase can be attributed to development projected at the end of the forecast period (i.e., between 2010 and 2015). Also, TAZ 367, the Candlestick area, accounts for more than the total job increase in the entire area, offsetting the decreases in other zones. By dropping TAZ 367 from the analysis, employment in 2015 would be about two percent below that predicted for 2010 in *Projections '94*. While the new Candlestick Point Stadium and Retail/Entertainment Center development is expected to be built out by 2010, secondary employment generators (other developments) are not. The employment gains anticipated by the San Francisco Redevelopment Agency data for 2015 would not all be realized by 2010, the build-out year evaluated in this EIS.

Based on the above considerations and the inherent uncertainty of projections of future growth, it is clear that, despite newer data for 2015 and *Projections '94*, this EIS satisfactorily represents estimated future cumulative growth in the southeast quadrant of the City. To ensure further consistency with other City project analyses (e.g., Mission Bay and Third Street Light Rail Transit [LRT]) and adequate consideration of potential cumulative effects of the Candlestick Point Stadium and Retail/Entertainment Center development, this EIS also compares transportation, water quality, and other data available from these other City project analyses, making adjustments where necessary (see Sections 4.1 and 4.9).

Because the analysis in this document is based on regional projections and assumes transportation improvements to be programmed within about the same time frame as the projections, project effects include cumulative effects of regional development. Project effects presented in Chapter 4 already present future conditions for the following impact categories: land use; transportation, traffic and circulation; air quality; noise; and water quality. Some of these issues are considered further in Section 5.1.3, as they relate to the possible reconfiguration of the ring road around Candlestick Point and the Yosemite Slough bridge, both reasonably foreseeable transportation projects that have not yet been programmed by MTC.

5.1.2 Reasonably Foreseeable Future Projects

Potential cumulative effects are not always regional in scope, so the HPS project was analyzed to evaluate whether less than significant environmental effects that would be experienced locally could become significant when considered with other reasonably foreseeable future projects in the vicinity.

Anticipated land use changes in the area include those associated with the proposed Bayview-Hunters Point redevelopment area and the approved Giants baseball stadium at China Basin. These projects are taken into account in considering future development in the HPS vicinity. The new Mission Bay development plan, incorporating a University of California at San Francisco campus and the completion of the San Francisco Municipal Railway (MUNI) Third Street LRT project, are also considered. Major infrastructure projects considered foreseeable include the Candlestick Point Stadium and Retail/Entertainment Center development proposal, reconfiguration of roads surrounding 3Com Park into a ring road, and construction of a bridge across Yosemite Slough, coupled with constructing an extension of Carroll Avenue between Third Street and Bayshore Boulevard to improve access to U.S. Highway 101 (U.S. 101). Removing the Hunters Point Power Plant has not been considered because it would primarily result in environmental benefits, rather than impacts.

5.1.3 Potential Cumulative Impacts

The following discussion does not repeat information and analysis described in Chapter 4. Instead, it focuses on potential reuse effects, including in combination with the proposed Yosemite Slough Bridge, Carroll Avenue extension, and road reconfiguration around 3Com Park/Candlestick Point. The potential for cumulative construction-period effects also is discussed.

Freeway Traffic

When considered in the context of regional population and employment projections, the Proposed Reuse Plan and Reduced Development Alternative would each contribute to a cumulatively significant and unmitigable traffic impact on regional freeways.

The Proposed Reuse Plan would contribute approximately two percent or less to total cumulative traffic volumes on U.S. 101 near the county line and along Interstate 280 (I-280) south of U.S. 101 (see Table B-22 in Appendix B). Freeway mainline level of service (LOS) at I-280 south of U.S. 101 at the county line would operate at LOS D, E, or F, depending on the amount of background growth in the immediate vicinity of the county line, in the P.M. peak hours in 2015. Since there is no plan to increase the freeway mainline capacity at either of these locations, this cumulative impact would be significant and unmitigable. The project's contribution to increased traffic would be reduced, but not eliminated, by the Transportation Demand Management (TDM) mitigation measures described for the significant unmitigable traffic impact in Section 4.1.

The Reduced Development Alternative would also contribute to cumulatively significant freeway mainline traffic impacts at U.S. 101 near the county line and along I-280 south of U.S. 101. Assuming completion of the Candlestick Point Stadium and Retail/Entertainment Center project, freeway mainline LOS at both of these locations would operate at LOS F during the P.M. peak hour in 2015. Since there is no plan to increase the freeway mainline capacity at either of these locations, this cumulative impact would be significant and unmitigable. The project's contribution to increased traffic would be reduced, but not eliminated, by the TDM mitigation measures described for the significant unmitigable traffic impact in Section 4.1.

Concurrent Reuse and Remediation

Activities associated with reuse could occur at the same time as remediation activities, and trucks traveling to and from the site for remediation purposes (estimated at 40 to 60 truck trips per day on average, with a maximum of approximately 150 truck trips per day) would mix with vehicles accessing the site for reuse purposes (conservatively estimated at a maximum of 50 trucks in the P.M. peak hour in 2010).

Build-out of the Proposed Reuse Plan is likely to occur over time, as demonstrated by the market analysis (City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1995) contained in Appendix B. In the first years of reuse, when remediation is ongoing, activity levels are projected to be a small percentage of those expected in 2010 or 2025. As reuse activities are initiated, vehicle trips associated with new residents and employees would mix with traffic associated with building demolition and new construction, which would also be staggered based on demand.

The combined activities associated with remediation and partial reuse would be unlikely to exceed the 5,580 daily vehicle trips projected to occur by 2010 or the 10,000 vehicle trips projected to occur by full build-out in 2025. Thus, the resulting cumulative effect of combined remediation and partial reuse would be less than or roughly equivalent to the project and cumulative traffic impacts analyzed in Section 4.1, although they could occur at a somewhat earlier date than projected.

Members of the community have suggested that residents of Bayview-Hunters Point who work at HPS under reuse could be exposed to health risks because of the likelihood that they are exposed to potential sources of environmental contamination in their residential neighborhoods as well as at work. In other words, these community representatives fear the cumulative effect on the population being exposed to environmental degradation at more than one location (at home and at work), because the level of remediation under the Installation Restoration Program (IRP) for non-residential areas was based on an assessment of risk assuming less than 24-hour exposure. While this concern may inform discussions with the U.S. Environmental Protection Agency (U.S. EPA) regarding the IRP risk assessment process in general, it would be speculative to conclude that a significant cumulative environmental impact would result in this particular instance. The current analysis cannot speculate on the nature of risk in other areas of the City or the Bay Area, nor on the precise composition of the future HPS work force (place of residence, general health, age, etc.). Furthermore, the increased awareness of hazardous materials issues in the Bayview-Hunters Point neighborhood is expected to result in a diminution of risk in that neighborhood, as projects such as the removal and/or replacement of Pacific Gas and Electric's (PG&E's) Hunters Point Power Plant are implemented. Other potential responses to this community concern, such as limiting HPS employment, would not be consistent with the objectives of reuse.

Reuse Impacts Combined with Potential Roadway Network Changes

In conjunction with developing the Candlestick Point Stadium and Retail/Entertainment Center, reconfiguring the roadways surrounding 3Com Park is proposed. If implemented, the new roadway configuration would include a new five- to seven-lane ring road encircling the stadium and mall, with signalized "T" intersections at Harney Way, Gilman Avenue, and Carroll Avenue and a stop sign-controlled intersection at Ingerson Avenue. Primary freeway access would be via Harney Way, where intersection and interchange improvements could be warranted by projected cumulative traffic increases. Operation of the ring road would be modified on football game days to provide one-way access and egress around the ring.

In addition to these circulation changes, the San Francisco Redevelopment Agency is considering constructing a bridge across Yosemite Slough, along with extending Carroll Avenue between Third Street and Bayshore Boulevard. These proposals are still under study and would primarily improve access and egress from HPS to and from the south.

Based on data obtained from the MTC regional travel model and the City-wide Travel Behavior Survey (City and County of San Francisco, 1993a and 1993b), it is estimated that most trips associated with HPS reuse activities would originate or terminate in San Francisco (74.5 percent), with the remaining trips beginning or ending in the North Bay (2.7 percent), East Bay (7.8 percent), or South Bay (15 percent). Based on this distribution pattern, it is estimated that most reuse traffic (about 80 percent) would continue to use the Evans Avenue North Gate, whether or not the Yosemite Slough bridge is constructed. Daily traffic expected to use the South Gate would be spread over the day, with most traffic concentrated in the P.M. peak hour (about 336 vehicle trips in 2010). These vehicles would have various options for accessing the bridge and could incrementally increase traffic on affected routes, such as Griffith Street, Carroll Avenue, the Candlestick Point ring road, and Harney Way; however, vehicles at severely congested intersections, such as Harney Way/Alana Way, that are attributable to HPS would be unlikely to exceed five percent of the total traffic volumes at these locations. Concurrent, incremental decreases in traffic volumes would be experienced along Evans Avenue and sections of Third Street.

The Candlestick Point Stadium and Retail/Entertainment Center development could use HPS for game day parking for about two years when the new stadium is under construction and the existing stadium (3Com Park) is open for ball games. During this period, it is anticipated that most of the parking spaces at 3Com Park would be displaced. In the worst-case situation, these spaces would be temporarily replaced in several locations. HPS is one of the sites being considered, but the total number of spaces or acreage needed is not yet defined.

If HPS is considered for game day parking during the construction period, HPS access would be either from Evans Avenue (North Gate) for vehicles from the north or from Crisp Avenue (South Gate) for vehicles from the south. Access to the North Gate would most likely be via Third Street and Evans Avenue. Potential cumulative traffic impacts include additional queuing of vehicles turning left from Third Street to Evans Avenue. Long traffic queues are expected during the peak inbound period. In addition, the Third Street LRT project is expected to be under construction during this period. The Third Street LRT project will remove one travel lane in each direction along portions of Third Street and, consequently, will aggravate already congested traffic conditions.

Access to the Crisp Avenue South Gate would be from both Third Street (via the Third Street ramp) and Hunters Point Parkway (via the Harney Way ramp). Potential cumulative traffic impacts would include intrusions into the east-west direction residential streets from Palou to Carroll Avenues. However, other residential streets, such as Gilman, Ingerson, and Jamestown Avenues, would benefit from the reduced traffic to and from the stadium.

Reuse Impacts Combined with Other Construction Activities in the Area

Construction effects are by definition temporary and intermittent and are seldom considered cumulatively significant for this reason. Cumulative construction impacts (noise, air quality, lighting, road closures, and heavy truck traffic) resulting from the new Candlestick Point Stadium and Retail/Entertainment Center, Third Street LRT, and other projects, when combined with the HPS reuse project, would affect areas immediately adjacent to construction activities at each project site. These effects could include increased traffic, potential for noise, dust, and inconveniences associated with construction activities. All large construction projects would be required to comply with noise and dust suppression controls, such that localized effects, even when experienced due to several projects, would not be significant. Traffic congestion and transit delays are frequently associated with construction activities in urban areas and would be of longer duration due to the multiple projects under construction. MUNI, Department of Parking and Traffic, and other City agencies would coordinate these large projects to minimize delays to the extent feasible.

5.2 UNMITIGABLE ADVERSE IMPACTS

5.2.1 Introduction

An EIS must describe any significant unmitigable adverse environmental impacts for which either no mitigation or only partial mitigation is feasible.

In general, unmitigable adverse effects can be described in two categories. The first includes impacts that would be attributable to the project itself, and the second includes cumulative impacts to which the project would contribute some increment. Project-specific impacts have been projected at a programmatic level of detail based on information presented herein regarding the environmental setting and the proposed project alternatives. Cumulative effects are by their nature more speculative, because their analysis depends upon predicting possible future environmental changes beyond the scope of the proposed project.

5.2.2 Transportation, Traffic, and Circulation

The Proposed Reuse Plan and Reduced Development Alternative for HPS would each contribute one significant unmitigable adverse impact and one significant unmitigable adverse cumulative impact for transportation, traffic, and circulation. Under the Proposed Reuse Plan, reuse would contribute approximately 19 percent to the total traffic volume at the Third Street and Cesar Chavez Street intersection. This intersection would operate at LOS F in 2010 under both the Proposed Reuse Plan and the Reduced Development Alternative because the Third Street LRT project would eliminate one through traffic lane in each direction on portions of Third Street. This would result in a significant traffic impact under each reuse alternative.

As discussed in Section 5.1 above, traffic associated with both the Proposed Reuse Plan and Reduced Development Alternative would contribute to cumulatively significant increased traffic congestion along U.S. 101 at the county line and along I-280 south of U.S. 101.

Both of the significant impacts described above would be partially mitigated through implementation of proposed Transportation Demand Management (TDM) measures, including measures to encourage transit use, expand transit service as necessary, and constrain on-site parking. These measures would somewhat decrease the project's contribution to congestion on local streets and freeways, but the effects would remain significant and unmitigable.

All other potentially significant project and cumulative impacts of the reuse alternatives would be mitigable to a less than significant level by implementing the mitigation measures in this EIS.

5.3 IRREVERSIBLE/IRRETRIEVABLE COMMITMENTS OF RESOURCES

NEPA requires that an EIS consider the extent to which primary and secondary effects of alternatives under consideration would commit nonrenewable resources to uses that future generations would be unable to reverse. In this regard, Navy disposal of HPS increases options for site use and for responsible long-term resource management and makes no resource commitments.

Implementing the Proposed Reuse Plan or the Reduced Development Alternative would require a significant commitment of both renewable and nonrenewable energy and material resources for demolishing and constructing structures and infrastructure. Developing the site according to the Proposed Reuse Plan or the Reduced Development Alternative would commit HPS to that general set of uses for the foreseeable future.

5.4 SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

An EIS must describe the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. Special attention is given to effects that might limit the range of beneficial uses of the environment or pose long-term risks to health and safety.

Implementing the Proposed Reuse Plan or Reduced Development Alternative would cause short-term impacts associated with construction. There would be both short-term and long-term beneficial effects, including an increase in employment and related economic activity and increased public access to open space and shoreline. The Proposed Reuse Plan would enhance long-term productivity, resulting in increased employment in the area and other improvements in economic activity, housing, and infrastructure. Consequently, the project's short-term impacts on the natural environment would be minimal in relation to the positive effects on long-term human productivity in the area.

5.5 ENVIRONMENTAL JUSTICE

5.5.1 Introduction

On February 11, 1994, President Clinton issued the Executive Order on Federal Actions to Address Environmental Justice in Minority and Low-income Populations (Executive Order 12898, 3 Code of Federal Regulations 859 (1995), reprinted in 42 United States Code Annotated § 4321 note at 475-79 (West, 1994)). This order requires that "each Federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." On April 21, 1995, the Secretary of Defense submitted a formal environmental justice strategy and implementation plan to U.S. EPA (U.S. Department of Defense, 1995).

To comply with Executive Order 12898, preparation of this EIS included the following actions:

- Gathering economic, racial, and demographic information from the 1990 U.S. census to identify areas of low-income and high minority populations in the area.
- Assessing the disposal and reuse actions for disproportionate impacts resulting from on-site activities associated with reuse of the site.
- Encouraging community participation and input through public hearings and meetings and extensive public notification (described in Chapter 1).

5.5.2 Criteria

The South Bayshore planning area, commonly known as the Bayview-Hunters Point neighborhood, is a predominately minority neighborhood. The ethnic composition of the South Bayshore planning area population is distinctly different from the City's as a whole. This population could be affected by the activities associated with disposal and reuse of HPS. Under the provisions of Executive Order 12898, "[m]itigation measures outlined or analyzed in an environmental assessment, environmental impact statement, or record of decision, whenever feasible, should address significant and adverse environmental effects of proposed Federal actions on minority communities and low-income communities." Relative to environmental justice, a significant impact would occur if the proposed action, including the consideration of all resource issues, would result in disproportionate negative effects on minority populations or low-income populations.

5.5.3 Minority Population and Low-Income Population Overview

About 90 percent of the South Bayshore planning area's population is of African American, Asian, or other nonwhite origin. Table 5.5-1 summarizes the race/ethnic composition of the South Bayshore planning area and the City (based on 1990 census data).

TABLE 5.5-1:
RACE/ETHNIC COMPOSITION OF THE SOUTH BAYSHORE PLANNING AREA AND CITY AND COUNTY OF SAN FRANCISCO, 1990

Racial Diversity	South Bayshore Planning Area	City and County of San Francisco
White	9%	47%
African American	61%	11%
Asian/Pacific Islander	22%	29%
Hispanic	8%	13%
Other	<1%	<1%

Source: City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, 1997d.

As of July 1998, the Bayview-Hunters Point neighborhood remains the strongest African American community in the City, but the proportion of African Americans has decreased to an estimated 55 percent. The estimated Asian/Pacific Islander population has increased to approximately 26 percent and is the neighborhood's second largest ethnic group (Ness, 1998).

In 1990, almost a fourth of all families in the South Bayshore planning area lived below the poverty level, compared with only 9.7 percent of households City-wide. In 1990, median household income in the eight South Bayshore planning area census tracts ranged from $15,089 to $70,543. In six of eight South Bayshore planning area census tracts, the 1990 median household income ($25,485) was below the City-wide median household income of $33,413.

5.5.4 Potential Disproportionate Impacts on Minority Populations or Low-Income Populations

The purpose of Executive Order 12898 is to avoid placing a disproportionately high share of the adverse environmental or economic effects resulting from Federal policies and actions on minority and low-income populations. Specific requirements of this order and of Navy policy include the following:

- Ensure opportunities for community input to the NEPA process.
- Ensure that the public, including minority and low-income communities, has access to public information related to human health issues, environmental planning, regulation and enforcement.
- Analyze human health, economic, and social effects of the Federal action on minority and low-income communities, when such analysis is required by NEPA.
- Ensure that mitigation measures outlined or analyzed in an EIS address significant and adverse environmental effects of proposed Federal actions on minority and low-income communities.
- Ensure that all programs or activities under its control that receive financial assistance and that affect human health or the environment do not directly or indirectly use criteria, methods, or practices that discriminate on the basis of race, color, or national origin.

Navy has ensured opportunities for community input throughout the NEPA process for HPS. Copies of the Draft EIS/Environmental Impact Report (EIR) and *Revised* Draft EIS/EIR were distributed to an extensive mailing list of agencies, organizations, and individuals thought to have an interest in the proposed action. An information repository has been established and is maintained at the San Francisco Public Library, Anna E. Waden Branch, 5075 Third Street, and at the San Francisco Main Library. The repository includes copies of all major documents pertaining to the environmental work at HPS.

Several of the Proposed Reuse Plan and redevelopment plan objectives are specific to environmental justice principles. An objective of the HPS redevelopment plan includes providing for the development of mixed-income housing. With regard to this objective, the project-wide aggregate income-mix goal includes 15 percent housing for persons and families of low or moderate income. Criteria for determining eligibility for affordable housing were established by the Department of Housing and Urban Development in combination with City-wide median income statistics. The Proposed Reuse Plan proposes to bring job training and placement programs to Bayview-Hunters Point residents for jobs tailored to businesses likely to develop in the South Bayshore planning area. These proposals include incentives for HPS businesses to hire locally for positions in such fields as printing/publishing, motion picture production, trucking and courier services, and wholesale activity.

EIS Chapter 4 addresses impacts on transportation, traffic, and circulation; air quality; noise; land use; visual resources and aesthetics; socioeconomics; hazardous materials and waste; geology and soils; water resources; utilities; public services; cultural resources; and biological resources for each alternative. These analyses conclude that, with mitigation, there would be no significant adverse impacts, except for traffic. There would be no disproportionate or other impact on minority or low-income populations, with respect to traffic impacts, for reasons described below.

The transportation analysis demonstrated that the project would have a significant and unmitigable impact on one local intersection and a cumulative significant impact on regional freeway segments. As described in Sections 4.1 and 5.1, the Proposed Reuse Plan would contribute to an unmitigable traffic impact on the Third Street and Cesar Chavez Street intersection. This intersection would operate at LOS F by 2010 with the extension of the Third Street light rail line, because the light rail line would reduce one through traffic lane in each direction along portions of Third Street. HPS reuse would contribute about 19 percent to the overall traffic volumes projected at this intersection, which is at the far northern boundary of the South Bayshore planning area in census tract 609. According to 1990 census data, of the eight census tracts that make up the South Bayshore planning area, census tract 609 had the most diverse racial composition and the smallest proportion of African Americans (19 percent) and other minority groups (36 percent). Therefore, traffic congestion at this intersection would not have a disproportionately high and adverse effect on minority and low-income populations.

Traffic associated with HPS reuse would contribute to cumulatively significant increased traffic congestion along U.S. 101 at the county line and along I-280 south of U.S. 101. However, U.S. 101 is an interstate transportation corridor traveling through California, and I-280 is a regional connector from San Jose to the City. U.S. 101 and I-280 are bordered by many diverse communities with varied populations and income levels. Because of the regional character of these transportation facilities, the range of communities that use these facilities, and the small contribution of traffic generated by HPS reuse to these corridors (see Appendix B, Future Baseline Traffic Growth), regional traffic impacts would not disproportionately affect minority and low-income populations.

There could be potential on-site health and safety impacts resulting from exposure to environmental contamination or hazardous materials on the site during reuse (as discussed in Section 4.7). According to Department of Defense policy, Navy is directed to remediate HPS to a level commensurate with the local reuse plan. Remediation levels are intended to protect human health (either for workers or residents, depending on proposed reuse), based on the human exposures actually likely to occur within the specific land use. Navy remedial actions and future City redevelopment activity will continue to be strictly regulated by restrictions in Comprehensive Environmental Response, Compensation, and Liability Act Records of Decision, worker safety regulations, and possibly deed restrictions, to ensure that workers and the general public are protected.

As described in the cumulative impacts discussion above, some members of the community have suggested that residents of Bayview-Hunters Point who work at HPS under reuse could be disproportionately exposed to health risks because of the likelihood that they are exposed to potential sources of environmental contamination in their residential neighborhoods. While this concern may inform discussions with the U.S. EPA regarding the IRP risk assessment process in general, it would be speculative to conclude that a significant environmental impact would result in this particular instance. Furthermore, increased awareness of hazardous materials issues in the Bayview-Hunters Point neighborhood is expected to result in a diminution of risk in that neighborhood, as projects such as removal and/or replacement of PG&E's Hunters Point Power Plant are implemented. Also, other potential responses to this community concern, such as limiting HPS employment, would not be consistent with the objectives of reuse.

5.6 PROTECTION OF CHILDREN FROM ENVIRONMENTAL HEALTH RISKS AND SAFETY RISKS

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks, states the following:

> "A growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because: children's neurological, immunological, digestive, and other bodily systems are still developing; children eat more food, drink more fluids, and breathe more air in proportion to their body weights than adults; children's size and weight may diminish their protection from standard safety features; and children's behavior patterns may make them more susceptible to accidents because they are less able to protect themselves."

Each Federal agency must (1) make it a high priority to identify and assess environmental health risks and safety risks that could disproportionately affect children and (2) ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

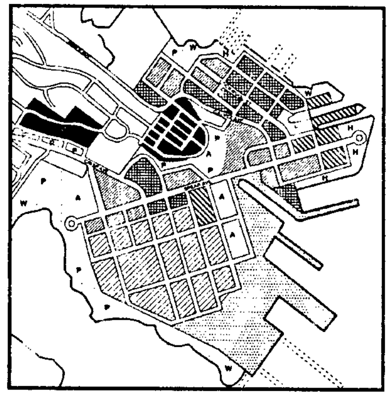
Under the definitions provided in Executive Order 13045, covered regulatory actions include those that could be "economically significant" (under Executive Order 12866) and "concern an environmental health risk or safety risk that an agency has reason to believe may disproportionately affect children." Further, Executive Order 13045 defines "environmental health risks and safety risks" [to] "mean risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to)."

Navy has made it a high priority to identify and assess environmental health risks and safety risks that could have disproportionately high effects on children.

There are no children presently residing at HPS, and there are no schools on HPS property. Therefore, Navy disposal and the No Action Alternative would not result in disproportionately high environmental health or safety risks to this population group. There could be potential on-site health and safety impacts resulting from exposure to environmental contamination or hazardous materials on the site during reuse (as discussed in Section 4.7), but there is no indication that any such potential impacts would disproportionately accrue to children. Areas of contamination are scheduled for cleanup prior to reuse, with restoration to levels appropriate to subsequent reuse categories. Children are not expected to be exposed during the cleanup process. Thus, no disproportionate impacts from environmental health risks and/or safety risks to children are likely under either of the reuse alternatives.

488 *This page intentionally left blank.*

6 Consultation and Coordination



CHAPTER 6: CONSULTATION AND COORDINATION

CONTENTS PAGE

6 CONSULTATION AND COORDINATION 6-1

6.1 Personal Communications 6-1

6.2 Scoping and Public Participation 6-3

6.3 Agencies, Organizations, and Persons on Project Mailing List 6-3

6.4 U.S. Navy Points of Contact 6-4

6.5 Other Points of Contact 6-4

6.6 List of Preparers 6-5

6. CONSULTATION AND COORDINATION

The Federal, state, and local agencies and private organizations and representatives that were contacted in the course of preparing this Environmental Impact Statement are listed in this chapter.

6.1 PERSONAL COMMUNICATIONS

City of San Francisco

Department of Building Inspections
Y. Chew
R. Young

Department of Parking and Traffic
Jack Fleck
Gerry Robbins

Department of Public Works
Gene Handa
Bob Jew
Karen Kubic

Deputy City Attorney
John Cooper

Office of Environmental Review
Barbara Sahm

Planning Department
David Feltham

San Francisco Police Department
Mike Nichol

San Francisco Redevelopment Agency
G. Goldman
Byron Rhett

San Francisco Unified School District

W. Allen

Joanna Fong, Research and Information Systems

Janet Frost, Consultant, Middle School Operations

J. Greene, Research and Information Systems

Solid Waste Management Program

Marsha Divahn

Sharon Maves

Water Department

Chris Morioka

Hunters Point Shipyard

Don Brown, Caretaker Site Office, Hunters Point Shipyard

Raymond Michael Lewis, BRAC Security Officer for the West Coast

Don Shannon, Hunters Point Shipyard Caretaker Site Office

Eddie Sarmiento, Caretaker Site Office, Hunters Point Shipyard

Don Shannon, Hunters Point Shipyard Caretaker

Bay Area Air Quality Management District

J. Tomich

California Air Resources Board

Victor Douglas, Stationary Source Division

California Department of Fish and Game

Deborah McKee, Inland Fisheries Division

California Department of Transportation

Chan Newlander, District 4 Office of Operations

Forward Landfill Inc.

Corrina M. Matthews

Pacific Bell

Lee Olsen

Pacific Gas & Electric

Lee Issac

San Francisco Bay Conservation and Development Commission

J. Ruffulo

Sedway & Associates

Sedway & Associates

Southeast Water Pollution Control Plan

Ashley Muller
J. Wall

6.2 SCOPING AND PUBLIC PARTICIPATION

The following interested parties identified issues and areas of concern during the scoping period:

The following interested parties identified issues and areas of concern during the scoping period:

- Arc Ecology
- City of San Francisco Recreation and Park Department
- Concerned Artists from Hunters Point Shipyard
- Metropolitan Transportation Commission
- San Francisco Bay Conservation and Development Commission
- U.S. Environmental Protection Agency, Office of Federal Activities

6.3 AGENCIES, ORGANIZATIONS, AND PERSONS ON PROJECT MAILING LIST

The project mailing list is used by the Navy and by the City of San Francisco to notify interested members of the public of the major milestones associated with the Reuse of Hunters Point. The agencies, organizations, and individuals on the mailing list for the November 1997 Draft EIS/EIR and the October 1998 *Revised* Draft EIS/EIR are presented in Appendix A. The agencies, organizations, and individuals on the updated distribution list for this Final EIS/EIR are presented in Chapter 9.

6.4 U.S. NAVY POINTS OF CONTACT

Melanie Ault
B.S. Geography and Urban and Regional Planning, University of Alabama
Years of Experience: 12
(Environmental Planning Project Manager)

BRAC Operations Office
1220 Pacific Highway
San Diego, CA 92132-5190

Louis S. Wall
MURP, Urban and Regional Planning, George Washington University
B.S., Urban Geography, University of Maryland
Years of Experience: 29
(Historic Resources)

Naval Facilities Engineering Command
Engineering Field Activity West
Environmental Planning Branch
900 Commodore Drive
San Bruno, CA 94066-5006

6.5 OTHER POINTS OF CONTACT

6.5.1 Planning Department, City and County of San Francisco

Hillary E. Gitelman
Master of Science in Historic Preservation, Columbia University
B.A., History of Art, Yale University
(Environmental Review Officer)
Years of Experience: 10

Brian J. Kalahar, AICP
Master of Public Administration, Arizona State University
B.S., Park Administration, Michigan State University
(Project EIS/EIR Coordinator)
Years of Experience: 12

City and County of San Francisco
Office of Environmental Review
1660 Mission Street
San Francisco, CA 94103

6.5.2 Office of Military Base Conversion, San Francisco Redevelopment Agency

Byron Rhett
M.S., Urban Studies, Occidental College
B.S., City Planning, University of Cincinnati
(Project Manager, Hunters Point Shipyard)
Years of Experience: 22

Stanley Muraoka
B.S., Environmental Engineering and Planning, Stanford University
(Project Planner, Hunters Point Shipyard)
Years of Experience: 12

San Francisco Redevelopment Agency
770 Golden Gate Avenue
San Francisco, CA 94102

6.6 LIST OF PREPARERS

Listed below are individuals from the Navy's contractor, Uribe & Associates, and sub-contractors who are responsible for technical analysis and document production.

6.6.1 Contractor

Uribe & Associates

PROJECT MANAGEMENT
Stephanie A. Knott, RG, CHG
M.S., Geology, Stanford University
B.S., Geology, Stanford University
Years of Experience: 11
(Project Manager)

TECHNICAL TEAM
Bradley G. Erskine, Ph.D., RG, CEG
Doctorate, Geology, University of California, Berkeley
M.S., Geophysics, California State University, San Diego
B.S., Geology, University of California, Los Angeles
Years of Experience: 13
(Geology, Hazardous Materials)

A. Michele Lau
B.S., Applied Ecology, University of California, Irvine
B.A., Environmental Analysis and Design, University of California, Irvine
Years of Experience: 4
(Technical Support)

Tom Limon
B.A., Geography, University of California, Santa Barbara
Years of Experience: 3
(Technical Support)

Thomas Meichtry, PE
M.B.A., Pepperdine University
M.S., Civil Engineering, California State University, Long Beach
B.S., Civil Engineering, Loyola Marymount University
Years of Experience: 28
(Utilities)

David J. Montgomery, Ph.D.
Doctorate, Slavic Languages and Literatures, University of California, Berkeley
B.A., English and Russian, Stanford University
Years of Experience: 7
(Cultural Resources)

Douglas I. Sheeks, RG
B.A., Geology, Sonoma State College
Years of Experience: 19
(Public Services)

Dawn C. Uribe
B.F.A., Interdisciplinary Design, California College of Arts and Crafts
Years of Experience: 12
(QA/QC, Document Production)

Brian K. Wines
M.S., Chemical Engineering, University of California, Berkeley
B.S., Chemistry, University of Washington
B.S., Chemical Engineering, University of Washington
Years of Experience: 10
(Senior Technical Review)

6.6.2 Subcontractors

Tetra Tech

Marisa R. Atamian
B.S., Landscape Architecture, California Polytechnic State University, San Luis Obispo
Years of Experience: 1
(Public Services)

David Batts
M.S., Natural Resource Planning and Policy, Michigan State University, East Lansing, Michigan
B.S., International Development, Lewis and Clark College, Portland, Oregon
Years of Experience: 10
(Biological Resources)

John Bock
B.S., Environmental Toxicology, University of California, Davis
Years of Experience: 6
(Public Services)

Amy Cordle
B.S., Civil Engineering, Virginia Polytechnic Institute and State University, Blacksburg, Virginia
Years of Experience: 5
(Air Quality and Noise)

Matt Dulcich
B.S., Environmental Policy Analysis and Planning, University of California, Davis
Years of Experience: 5
(Land Use)

Phyllis Potter, AICP
M.A., Environmental Planning, California State University, Long Beach
B.A., Fine Arts, Portland State University, Portland, Oregon
Years of Experience: 18
(Land Use, Visual Resources and Aesthetics, QA/QC)

Robert Sculley
M.S., Ecology, University of California, Davis
B.S., Zoology, Michigan State University
Years of Experience: 24
(Air Quality and Noise)

Roxanne Stachon
B.S., Environmental Resources Engineering
Years of Experience: 2
(Air Quality)

Randolph B. Varney
B.A., Technical and Professional Writing, California State University, San Francisco
Years of Experience: 13
(Editing)

Terry B. Witherspoon
M.C.P., City Planning, University of California, Berkeley
B.A., Architecture, Yale University
Years of Experience: 9
(Visual Resources and Aesthetics, Hazardous Materials and Waste, QA/QC)

Basin Research

Colin Busby, Ph.D.
Doctorate, Anthropology, University of California, Berkeley
M.A., Anthropology, University of California, Berkeley
B.A., Anthropology, University of California, Berkeley
Years of Experience: 24
(Cultural Resources)

Cheung Environmental Consulting

Lori Cheung
B.A., Environmental Science, University of California, Berkeley
Years of Experience: 12
(Utilities)

Grassetti Environmental Consulting

Richard Grassetti
M.A., Geography (Emphasis - Water Resources), University of Oregon
B.A., Physical Geography, University of California, Berkeley
Years of Experience: 16
(Water Resources)

JRP Historical Consulting Services

Mark F. Bowen
M.A., Public History, California State University, Sacramento
B.A., History, California State University, Chico
Years of Experience: 2
(Cultural Resources)

Janice Caitlin Calpo
M.S., Historic Preservation, University of Oregon, Eugene
B.A., Government-Journalism, California State University, Sacramento
Years of Experience: 5
(Cultural Resources)

Stephen D. Mikesell
M.A., History, University of California, Davis
B.A., History, Harvard University
Years of Experience: 18
(Cultural Resources)

Korve Engineering

Linda Lee
B.S., Civil Engineering, University of California, Berkeley
Years of Experience: 12
(Traffic, Transportation & Circulation)

Chi-Hsin Shao
M.S., Infrastructure Planning, Stanford University
B.E., Architecture, Chung Yuang University (Taiwan)
Years of Experience: 20
(Traffic, Transportation & Circulation)

Luba Wyznyckyj
M.U.P., Urban Planning Infrastructure, New York University
B.A., Economics, Urban Design Studies, New York University
Years of Experience: 13
(Traffic, Transportation & Circulation)

Mara Feeney Associates

Mara Feeney
M.A., Community and Regional Planning, University of British Columbia
B.A., Anthopology, Bryn Mawr College
Years of Experience: 22
(Socioeconomics)

Melissa Mednick
B.A., English, University of California, Berkeley
Years of Experience: 14
(Socioeconomics)

Mason Tillman Associates

Eleanor Mason Ramsey, Ph.D.
Doctorate, Anthropology, University of California, Berkeley
M.A., Anthropology, University of California, Berkeley
B.A., Folklore, Hunter College
Years of Experience: 20
(Cultural Resources)

Gloria Wheatley
M.A., Anthropology, Duke University
B.A., Anthropology, University of California, Berkeley
Years of Experience: 18
(Cultural Resources)

Mojave Archeological Services

Michael Perry
M.A., Anthropology, Eastern New Mexico University
B.S., Anthropology, Eastern New Mexico University
Years of Experience: 16
(Cultural Resources)

Page & Turnbull, Inc.

Mark Hulbert
B.A., Architecture & Historic Presentation, Environmental Design in Architecture,
North Carolina State University
Years of Experience: 13
(Cultural Resources)

PAR Environmental Services, Inc.

Cindy L. Baker
M.A., History, California State University, Sacramento
B.A., Social Science, California State University, Sacramento
B.A., Journalism, California State University, Sacramento
Years of Experience: 12
(Cultural Resources)

Blossom Hamusek-McGann
M.A., Anthropology, California State University, Chico
B.A., Anthropology, California State University, Chico
Years of Experience: 15
(Cultural Resources)

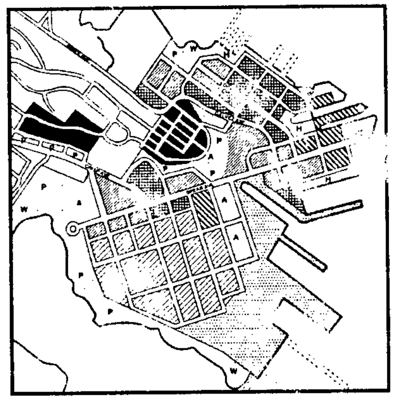
Mary L. Maniery
M.A., Anthropology, California State University, Chico
B.A., History, California State University, Chico
B.A., Anthropology, California State University, Chico
Years of Experience: 20
(Cultural Resources)

Vicki Hill, Environmental Planning Associates

Vicki Hill
M.P.A., Public Administration, Harvard University
B.A., Environmental Studies, University of California, Santa Barbara
Years of Experience: 15

337 *This page left intentionally blank.*

7 References



CHAPTER 7: REFERENCES

7. REFERENCES

Acoustical Society of America. 1978. *American National Standard Method for the Calculation of the Absorption of Sound by the Atmosphere.* ANSI S1.26-1978; ASA 23-1978. New York, New York.

Aragon, Tomas, M.D., M.P.H., Kevin Grumbach, M.D. 1997. *Draft Community Health Profile, Bayview Hunters Point Health and Environmental Assessment Project, Summary of Preliminary Results from Community Health Profiles Research.* Community Health Epidemiology Section, Public Health Division, San Francisco Department of Public Health and Primary Care Research Center, Division of Family & Community Medicine, University of California San Francisco. July 19.

Association of Bay Area Governments (ABAG). 1993. *Projections '94.* December.

_____. 1995a. *On Shaky Ground: Association of Bay Area Governments,* Publ. No. P95001EQK, Oakland, California.

_____. 1995b. *Projections '96.* December.

_____. 1997. *Projections '98.* December.

_____. 1998a. *Projections '98:* Data by Census Tract. June.

_____. 1998b. San Francisco Bay Trail - Map 1, Golden Gate South, San Francisco and San Mateo Counties. Http:\\www.abag.ca.gov\bayarea\baytrail\maps\map1d.gif.

Bay Area Air Quality Management District (BAAQMD). 1994. Air Pollution in the Bay Area by Station and Contaminant.

_____. 1996. *Air Quality and Urban Development Guidelines for Assessing Impacts of Projects and Plans.* San Francisco, California. April.

_____. 1997. *Bay Area '97 Clean Air Plan and Triennial Assessment.* Volumes I-VI.

_____. 1998. *1997 Annual Report, Toxic Air Contaminant Control Program. Volumes I and II.* Bay Conservation and Development Commission (BCDC). 1969. *San Francisco Bay Plan.* San Francisco Bay Conservation and Development Commission. San Francisco, California. January 1969, revised 1997.

_____. 1998. Letter to U.S. Navy, Engineering Field Activity, West and City and County of San Francisco Planning Department. January 14.

BCDC and Metropolitan Transportation Commission (MTC). 1996. *Draft San Francisco Bay Area Seaport Plan.* February 16.

California Air Resources Board. 1991. State and National Ambient Air Quality Standards (ARB Fact Sheet 39).

_____. 1991-1997. *California Air Quality Data, Volumes XXIII - XXVIII (Annual Summaries).* Aerometric Data Division. Sacramento, California.

California Department of Fish and Game (CDFG). 1994a. *Special Animals List.* National Heritage Division, National Diversity Data Base. August.

_____. 1994b. *Endangered, Threatened, and Rare Plants of California.* Natural Heritage Division, Endangered Plant Program. November.

_____. 1994c. *Special Plants List.* National Heritage Division, National Diversity Data Base. November.

_____. 1995. *California Natural Diversity Data Base.* Natural Heritage Division.

California Department of Health Services. 1987. *Guidelines for the Preparation and Content of the Noise Element of the General Plan,* in *Appendix A in State of California General Plan Guidelines.* California Office of Planning and Research. Sacramento, California.

California Energy Commission (CEC). 1995. *Final Staff Assessment: San Francisco Energy Company Co-generation Project.* June.

City and County of San Francisco, Department of Building Inspections. 1996a. Y. Chew, Personal communication with Bradley Erskine, Uribe & Associates.

City and County of San Francisco, Department of Building Inspections. 1996b. R Young, Personal communication with Bradley Erskine, Uribe & Associates.

City and County of San Francisco. 1974. *Community Safety Element of San Francisco Master Plan.*

_____. 1979. *Bayside Overflows,* prepared by CH2M Hill. June. As cited by City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, in the *Draft Mission Bay Subsequent Environmental Impact Report,* April 11, 1998. p. V.K.9.

_____. 1993a. A Joint Project of the Department of City Planning, the San Francisco Public Utilities Commission, and the San Francisco County Transportation Authority. *Citywide Travel Behavior Survey - Employees and Employers.* May.

_____. 1993b. *Citywide Travel Behavior Survey - Visitor Travel Behavior.* August.

_____. 1995a. *Draft Water Recycling Master Plan, Apparent Best Alternative.* February.

_____. 1995b. Sharon Maves, Solid Waste Management Program. Personal communication with Rasmi El-Jurf, Uribe & Associates.

_____. 1996. *Phasing Plan Draft.* January 18.

_____. 1997. Resolution #692-97 endorsing the City's *Sustainability Plan.* July 21.

City and County of San Francisco, Department of Parking and Traffic. 1993. *1993 Truck Classification Counts.* As cited by U.S. Department of Transportation, Federal Transit Administration and the City and County of San Francisco, Planning Department, in the *Draft Environmental Impact Statement/Draft Environmental Impact Report for the Third Street Light Rail Project in the City and County of San Francisco.* April 3, 1998, p 3-17.

_____. 1996. *1996 Truck Traffic Along Corridor.* As cited by U.S. Department of Transportation, Federal Transit Administration and the City and County of San Francisco Planning Department, in the *Draft Environmental Impact Statement/Environmental Impact Report for the Third Street Light Rail Project in the City and County of San Francisco,* April 3, 1998, pp. 3-17 and 3-18.

_____. 1997a. *Intersection Performance in Segment 4 (Kirkwood Avenue to 16th Street).* As cited by U.S. Department of Transportation, Federal Transit Administration and the City and County of San Francisco, Planning Department, in the *Draft Environmental Impact Statement/Environmental Impact Report for the Third Street Light Rail Project in the City and County of San Francisco,* April 3, 1998, p. E-8, Table E-10.

_____. 1997b. *San Francisco Bicycle Plan.* December.

City and County of San Francisco, Department of Public Works, Bureau of Engineering. 1996. *Hunters Point Shipyard Reuse Infrastructure Backbone Project Plan.* November.

City and County of San Francisco, Planning Department. 1994. *Draft Environmental Impact Report, Bayside Discharge Alternatives.* May.

_____. 1995a. *San Francisco General Plan.* San Francisco, California. September 1988, as amended through March 1995.

_____. 1995b. *Commerce and Industry Inventory Update.* April 1.

_____. 1995c. *Transportation Element of the General Plan of the City and County of San Francisco.* May.

_____. 1995d. *South Bayshore Area Plan.* April 1995, adopted July 20.

_____. 1996. *Alternatives to Replacement of the Embarcadero Freeway and the Terminal Separator Structure EIS/EIR.* September.

_____. 1997a. Community Safety, an Element of the General Plan of the City and County of San Francisco. April.

_____. 1997b. Negative Declaration, 97.432E: Pier 98 Wetlands Restoration and Public Access. October 4.

City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency. 1994. *Hunters Point Shipyard Land Use Plan; Existing Conditions Report*. San Francisco, California. February.

_____. 1995. *Technical Summary of Hunters Point Shipyard Real Estate Market Projections*. Office of Military Base Conversion. Prepared by Sedway & Associates. May.

_____. 1997a. *Land Use Alternatives and Proposed Draft Plan, Hunters Point Shipyard*. Office of Military Base Conversion. March 1995, revised January 1997.

_____. 1997b. *San Francisco Giants Ballpark at China Basin Draft Environmental Impact Report*. March 14.

_____. 1997c. *Design for Development, Hunters Point Shipyard Redevelopment Project*. August.

_____. 1997d. *San Francisco Neighborhood Profiles*.

_____. 1998. *Final Mission Bay Subsequent Environmental Impact Report*. September.

City and County of San Francisco, Public Utilities Commission. 1997. *The Clean Water Act: 25 Years of Progress in San Francisco*. June.

_____. 1998a. Hunters Point Utility Narrative (Draft). Internal memorandum. February 18. Available for review at the San Francisco Planning Department and Redevelopment Agency.

_____. 1998b. Draft Bayside Cumulative Impact Analysis. March.

_____. 1998c. Comments on the Draft Summary of Comments and Responses to the *Hunters Point Shipyard Draft EIS/EIR*. April.

_____. 1998d. Internal memorandum to Hillary Gitelman from Beth Goldstein correcting Table 5 of the *Bayside System Cumulative Impact Analysis*. September 8.

Environmental Chemical Corporation (ECC). 1995. *Final Report, Parcel A Asbestos Remediation Report*. September 12.

Federal Insurance Administration. 1975. *Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound, Technical Report H-75-17*. Department of Housing and Urban Development, by A. W. Garcia and J. R. Houston at Hydraulics Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Virginia.

Gharabegian, A., K. M. Cosgrove, J. R. Pehrson, and T. D. Trinh. 1985. *Forest Fire Fighters Noise Exposure, Noise Control Engineering Journal 25(3):96-111*.

Glazer, Eva R., M.D., M.P.H., Martha M. Davis, M.S.P.H., Rita W. Leung, Tomas Aragon, M.D., M.P.H. 1998. *Cancer Incidence Among Residents of the Bayview-Hunters Point Neighborhood, San Francisco, California, 1993-1005.* California Department of Health Services, Northern California Cancer Center, San Francisco Department of Public Health. January.

Jefferson Company. 1995. *Hunters Point Shipyard Land Use Plan Economic Development Framework.*

Korve Engineering. 1998. *Technical Memorandum: Cumulative Transportation Impact Analysis.* July 1998.

Luk, S. 1998. Personal communication with Melissa Mednick, Mara Feeney & Associates. August.

National Register Nomination for Drydock #4, prepared by Urban Programmers.

Nelson, Nels. 1909. *Shellmounds of the San Francisco Bay Region.* University of California Publication in American Archeology and Ethnology, VII (4): 309-357.

Ness, Carol. 1998. *Bayview-Hunters Point Readies Coming-Out Party.* San Francisco Examiner, July 15, San Francisco, California. p. A5.

Port of Oakland. 1998. *Berths 55-58 Project, Draft Environmental Impact Report, Volume 1: Main Text.* December 11.

Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). 1998. *Final Staff Report; Section 303(d) List of Impaired Water Bodies and Priorities for Development of Total Maximum Daily Loads for the San Francisco Bay Region.* As cited by City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, in the *Draft Mission Bay Subsequent Environmental Impact Report*, April 11, 1998. P. V.K.8.

_____. 1999. *Final Toxic Hot Spot Cleanup Plan.* March.

San Francisco Bay-Delta Aquatic Habitat Institute. 1991. *San Francisco Estuary Project, Status and Trends Report on Pollutants in the San Francisco Estuary.* March 21. As cited by City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, in the *Draft Mission Bay Subsequent Environmental Impact Report*, April 11, 1998. p. V.K.8.

San Francisco Estuary Institute. 1995. *1995 Regional Monitoring Program Annual Report for San Francisco Bay.*

San Francisco Police Department (SFPD). 1996. Officer Janet Lacampagne. Written communication to John Bock, TetraTech, Inc. April 17.

_____. 1998. Tim Hettrich, Captain, SFPD. Personal communication with John Bock, TetraTech, Inc. July 7.

San Francisco Redevelopment Agency. 1995. Sedway & Associates, Memorandum to Byron Rhett and Alan Loving.

_____. 1996. *Hunters Point Shipyard Transportation Plan.* Prepared by Korve Engineering. September.

_____. 1997a. Keyser Marston Associates, Inc. Memorandum to Stan Muraoka. April 16.

_____. 1997b. *Hunters Point Shipyard Redevelopment Plan.* July 14, 1997.

_____. 1998a. *Summary Report of Environmental Conditions, Bayview Hunters Point Survey Area.* April 1998.

_____. 1998b. Tom Conrad, Project Planner. Facsimile to Stephanie Knott, Uribe & Associates. June 26.

_____. 1998c. *San Francisco Cumulative Growth Scenario, Final Technical Memorandum.*

San Francisco Unified School District. 1997. District and School Profiles, 1996-1997, Planning Research, and Information Systems. March. As cited by City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency in the *Mission Bay Subsequent Draft Environmental Impact Report.* April 11, 1998. p. V.M.29.

_____. 1998. Dr. E.A. Anderson, Assistant Superintendent, Department of Integration, San Francisco Unified School District. Personal communication with Melissa Mednick, Mara Feeney & Associates.

Sedway & Associates. 1991. *Third Street Corridor Study/Economic Development and Market.*

State Historic Preservation Officer (SHPO). 1998. Letter to Louis S. Wall, Cultural Resources Program Coordinator, Department of the Navy, Engineering Field Activity, West. State of California, the Resources Agency, Office of Historic Preservation. May 29.

State Lands Commission (SLC). 1998. Letter to U.S. Navy, Engineering Field Activity, West and City and County of San Francisco, Planning Department. January 5.

State Water Resources Control Board (SWRCB). 1997. *1996 California Water Quality Assessment Report*, p. 2-1. January. As cited by City and County of San Francisco, Planning Department and the San Francisco Redevelopment Agency, in the *Draft Mission Bay Subsequent Environmental Impact Report*, April 11, 1998. p. V.K.8.

TetraTech EMI. 1996. Unpublished field work.

_____. 1998a. Jim Sickles. Personal communication with Lori Cheung, Cheung Environmental Consulting. TetraTech EMI. June 29.

_____. 1998b. Jim Sickles. Personal communication with Lori Cheung, Cheung Environmental Consulting. TetraTech EMI. June 30.

_____. 1998c. Jim Sickles. Personal communication with Richard Grassetti, Grassetti Environmental Consulting. TetraTech EMI. June 30.

_____. 1998d. Jim Sickles. Personal communication with Stephanie Knott, Uribe & Associates. TetraTech EMI. July 9.

Transportation Research Board. 1994. *Highway Capacity Manual*, Special Report No. 209, Washington, D.C. October.

U.S. Department of Commerce, Bureau of the Census. 1993. *1990 Census of Population and Housing: Population and Housing Characteristics for Census Tracts and Block Numbering Areas: San Francisco-Oakland-San Jose, California*. Washington, D.C. July.

U.S. Department of Defense. 1995. Working Draft Strategy on Environmental Justice. February 21.

U.S. Department of the Interior, National Park Service. 1988. *National Register of Historic Places Registration Form for the Bridge Crane.*

_____. 1992. Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*.

U.S. Department of Transportation, Federal Transit Administration and the City and County of San Francisco, Planning Department. 1998. *Final Draft Environmental Impact Statement/Draft Environmental Impact Report for the Third Street Light Rail Project in the City and County of San Francisco*. November.

U.S. Environmental Protection Agency. 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. NTID300.1. Prepared by Bolt, Beranek and Newman. U.S. Government Printing Office. Washington, D.C.

_____. 1999. Press Release, "Statement of the U.S. Environmental Protection Agency on Court Decision on Clean Air Rules." Washington D.C., May 14.

U.S. Fish and Wildlife Service. 1994a. *Updated Species Lists for the Proposed Closure of Six San Francisco Bay Area Naval Facilities, Treasure Island - Hunter's Point Annex.* March 5.

_____. 1994b. *Endangered and Threatened Wildlife and Plants.* 50 CFR 17.11& 17.12. August 20.

_____. 1994c. *Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species;* Proposed Rule. 50 CFR Part 17. November 15.

_____. 1995. *Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the Pacific Coast Population of the Western Snowy Plover.* Federal Register. March 2.

_____. 1996. *Effects of Proposed Disposal and Community Re-Use of Hunters Point Shipyard on Mission Blue Butterfly.* December 16.

U.S. Geological Survey (USGS). 1980. *Topographic Map, Hunters Point Quadrangle.* 7.5 Minute Series.

_____. 1999. *Earthquake Probabilities in the San Francisco Bay Region: 2000 to 2030—A Summary of Findings.* USGS Open-File Report 99-517.

U.S. Navy. 1986. *Draft Supplemental Environmental Impact Statement, San Francisco Bay Region Ship Homeporting.* Department of the Navy.

_____. 1987. *Final Environmental Impact Statement, Homeporting, Battleship Battlegroup/Cruiser Destroyer Group.* July.

_____. 1988. *Historical Overview of Hunters Point Annex, Treasure Island Naval Base and Description of Properties that Appear Eligible for Listing in the National Register of Historic Places.* Prepared by Urban Programmers. 1988.

_____. 1989. *Preliminary Concept Plan: Naval Station Treasure Island Hunters Point Annex.*

_____. 1991. *Federal Facility Agreement for Naval Station Treasure Island, Hunters Point Annex, California.* Naval Facilities Engineering Command. Alexandria, Virginia. Amended November 15.

_____. 1992. *Wetland Delineation and Aquatic Habitat Identification,* Treasure Island Naval Station, Hunter's Point Annex. January.

_____. 1993. *Lead Based Paint and Soil Sampling: Parcel "A" Quarters, Hunters Point Naval Base.* August.

_____. 1994a. Notice 509D, May 27.

_____. 1994b. *Naval Station Treasure Island Hunters Point Annex Phase 1A Ecological Risk Assessment Volume II.* July.

_____. 1994c. *Naval Station Treasure Island, Hunters Point Annex; Baseline Environment Report. Volume I, 2a, and 2b: Parcel A and Dry Dock 4.* July.

_____. 1995a. *Base Realignment and Closure Cleanup Plan for Hunters Point Annex*. Naval Facilities Engineering Command. Amended February.

_____. 1995b. *Draft Rare Plant Survey Naval Station Treasure Island, Hunters Point Annex San Francisco, California*. July.

_____. 1995c. *Hunters Point Annex, Parcel A, Record of Decision*. November 16.

_____. 1995d. *Draft Final Parcel A Remedial Investigation Report, EFA West, HPA, San Francisco, California*. November 27.

_____. 1995e. Don Brown, Officer in Charge, U.S. Navy, Hunters Point Shipyard. Personal communication with Jonathan Gervais, Uribe & Associates.

_____. 1996a. *Base Realignment and Closure Cleanup Plan for Hunters Point Annex*. March 15.

_____. 1996b. Supplemental Storm Water Pollution Prevention Plan for Hunters Point Shipyard. Prepared by Radian Corporation. May 21.

_____. 1996c. *Basewide Environmental Baseline Survey for EFA West, Hunters Point Annex San Francisco, CA*. Preliminary Draft Report, Volumes I and II. June.

_____. 1996d. *Mission Blue Butterfly Survey for Hunters Point Shipyard, San Francisco, California*. June.

_____. 1996e. *Hunters Point Shipyard, Draft Final Parcel B Remedial Investigation Report*. June 3.

_____. 1996f. *Hunters Point Shipyard, Draft Final Parcel D Remedial Investigation Report*. October 25.

_____. 1996g. *Hunters Point Shipyard Draft Phase 1B Ecological Risk Assessment, Volume I, Ecological Risk Assessment, Part 1, Nature and Extent of Contamination, and Part 2, Risk Characterization to Aquatic Receptors*. November 15.

_____. 1996h. Eddie Sarmiento, Public Works Center. Personal communication with Ellen Levin, Uribe & Associates.

_____. 1997a. *Hunters Point Shipyard, Draft Final Parcel D Feasibility Study*. January 24.

_____. 1997b. *Hunters Point Shipyard, Draft Parcel C Feasibility Study*. February 27.

_____. 1997c. *EFA West, Hunters Point Shipyard BRAC Cleanup Plan – Revision 03*. March.

_____. 1997d. *Hunters Point Shipyard, Draft Final Parcel C Remedial Investigation Report*. March 13.

_____. 1997e. *Historic Context and Inventory and Evaluation of Buildings and Structures–Hunters Point Shipyard, San Francisco, California.* Department of the Navy, Engineering Field Activity, West, Naval Facilities Engineering Command. Prepared by JRP Historical Consulting Services. September 1997.

_____. 1997f. *Hunters Point Shipyard, Final Parcel B Record of Decision.* October 7.

_____. 1997g. *Hunters Point Shipyard, Draft Final Parcel E Remedial Investigation Report.* Report initially submitted May 29, 1997, with replacement pages submitted October 27.

_____. 1997h. Draft Parcel D ROD, HPS, San Francisco, California. November 3.

_____. 1998a. *Hunters Point Shipyard, Draft Parcel E Feasibility Study.* January 15.

_____. 1998b. *Archeological Inventory and Assessment of Hunters Point Shipyard Annex Disposal and Reuse Project, San Francisco County, California.* Department of the Navy, Engineering Field Activity, West, Naval Facilities Engineering Command. Prepared by PAR Environmental Services. February.

_____. 1998c. *Final Basewide Finding of Suitability to Lease (Excluding Parcel A) for Hunters Point Shipyard, San Francisco, California.* March 6.

_____. 1998d. *Hunters Point Shipyard, Draft Parcel F Feasibility Study.* April 3.

_____. 1998e. *Basewide Environmental Baseline Survey, Revision 01, Hunters Point Shipyard, San Francisco, California.* May 1.

_____. 1998f. 1997-1998 Storm Water Annual Report for Hunters Point Shipyard. Prepared by Radian International, LLC. June 23.

_____. 1998g. Michael McCelland, Engineering Field Activity, West, Naval Facilities Engineering Command. Personal communication with Lori Cheung, Cheung Environmental Consulting. June 30.

_____. 1998h. Michael McCelland, Engineering Field Activity, West, Naval Facilities Engineering Command. Personal communication with Richard Grassetti, Grassetti Environmental Consulting. June 30.

_____. 1998i. Don Brown, Deputy Officer in Charge, U.S. Navy, Hunters Point Shipyard. Personal communication with John Bock, TetraTech, Inc. July 1.

_____. 1998j. Vern Cooney, Captain, U.S. Navy, Hunters Point Shipyard, Fire Department. Personal communication with John Bock, TetraTech, Inc. July 2.

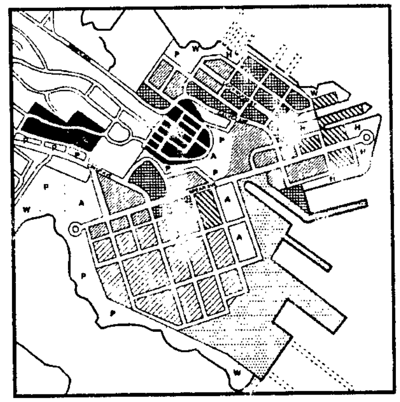
_____. 1998k. *Hunters Point Shipyard, Draft Final Feasibility Study for Parcel C.* July 15.

_____. 1998l. Analysis and calculations supporting this *Hunters Point Shipyard EIS/EIR.* Prepared by Uribe & Associates.

West Group. Federal Environmental Laws, 1985, 1986, 1992, 1994, 1995, 1996, and 1998; Supplements 1998 and 1999.

341 *This page intentionally left blank.*

8 Glossary



Chapter 8: Glossary

8. GLOSSARY

A-Weighted Sound Level (dBA)

A number representing the sound level that is frequency weighted according to a prescribed frequency response established by the American National Standards Institute (ANSI S1.4-1971) and accounts for the response of the human ear.

Ambient Air Quality Standards (AAQS)

Standards established on a state or Federal level that define the limits for airborne concentrations of designated "criteria" pollutants (nitrogen dioxide, sulfur dioxide, carbon monoxide, total suspended particulates, ozone and lead), to protect public health with an adequate margin of safety (primary standards) and to protect public welfare, including plant and animal life, visibility, and materials (secondary standards).

Attainment Area

A region that meets the National Ambient Air Quality Standards for a criteria pollutant under the Clean Air Act or meets state air quality standards.

Bay Area

Region loosely defined by San Francisco and San Pablo Bays and the geographic and urban areas along their shores.

Carbon Monoxide (CO)

A colorless, odorless, poisonous gas produced by incomplete fossil-fuel combustion. One of the six pollutants for which there is a national ambient standard.

Caretaker Status

The Navy is responsible for the upkeep and maintenance of the base until the environmental restoration program is completed and the property is transferred.

City, the

The City and County of San Francisco.

Class I, II, and III Areas

Area classifications, defined by the Clean Air Act, for which there are established limits on the annual amount of air pollution increase. Class I areas include international parks and certain national parks and wilderness areas; allowable increases in air pollution are very limited. Air pollution increases in Class II areas are less limited and are least limited in Class III areas. Areas not designated as Class I start out as Class II and may be reclassified up or down by the state, subject to federal requirements.

Community Noise Equivalent Level (CNEL)

Noise compatibility level established by 21 C.A.C. § 5000. The 24-hour average A-weighted sound level with a 5 dB weighting added to levels occurring between 10:00 p.m. and 7:00 a.m.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

The Federal law (Pub. L. 96-510), passed December 11, 1980, which provides a series of programs to address the cleanup of hazardous waste disposal and spill sites. This program is codified in 42 U.S.C.A. § 9601-9675 (West, 1995 and Supp. 1998).; and 26 U.S.C.A. §§ 4611, 4612, 4661, 4662, 4671, and 4672. It has been modified and amended several times, most significantly in 1986 by the Superfund Amendments and Reauthorizations Act (SARA).

Council on Environmental Quality (CEQ)

Established by the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) consists of three members appointed by the President. CEQ regulations (40 C.F.R. §§ 1500-1508, as of July 1, 1986) describe the process for implementing NEPA, including preparation of environmental assessments and environmental impact statements and the timing and extent of public participation.

Cultural Resources

Prehistoric and historic districts, sites, buildings, objects, or any other physical evidence of human activity considered important to a culture, subculture, or a community for scientific, traditional, religious, or any other reason.

Day-Night Average Sound Level (L_{dn})

The 24-hour average-energy sound level expressed in decibels, with a 10-decibel penalty added to sound levels between 10:00 p.m. and 7:00 a.m. to account for increased annoyance due to noise during night hours.

Decibel (dB)

A unit of measurement on a logarithmic scale that describes the magnitude of a particular quantity of sound pressure or power with respect to a standard reference value.

Effluent

Waste material discharged into the environment.

Equivalent Noise Levels (L_{eq})

Equivalent noise levels are used to develop single-value descriptions of average noise exposure over various periods of time.

Groundwater

Water that occurs underground in spaces and cracks in soils, sands, and rocks.

Groundwater Basin

A supply of groundwater, whether basin-shaped or not, that has reasonably well-defined boundaries and more or less definite areas of recharge and discharge.

Hazardous Material

Generally, a substance or mixture of substances that has the capability of either causing or significantly contributing to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or posing a substantial present or potential risk to human health or the environment.

Hazardous Waste

A waste, or combination of wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause or significantly contribute to, an increase in mortality or an increase in serious irreversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. Regulated under the Resource Conservation and Recovery Act (RCRA).

Hectare (ha)

An area equivalent to 2.471 acres or 10,000 square meters.

Impact (effect)

An assessment of the meaning of changes in all attributes being studied for a given resource; an aggregation of all the adverse effects, usually measured using qualitative and nominally subjective technique. In this Environmental Impact Statement (EIS), as well as in the CEQ regulations, the word impact is used synonymously with the word effect.

Installation Restoration Program (IRP)

A program established by the Department of Defense to meet requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and the Superfund Amendments and Reauthorization Act of 1986, which identifies, assesses, and cleans up or controls contamination from past hazardous waste disposal practices and hazardous material spills.

Mitigation

A method or action to reduce or eliminate program impacts.

National Ambient Air Quality Standards (NAAQS)

Nationwide standards for widespread air pollutants set by the U.S. EPA under section 109 of the Clean Air Act. Currently, six pollutants are regulated by primary and secondary NAAQS: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter (PM_{10}), and sulfur dioxide.

National Environmental Policy Act (NEPA)

Public Law 91-190, passed by Congress in 1969. The Act established a national policy designed to encourage consideration of the influence of human activities (e.g., population growth, high-density urbanization, industrial development) on the natural environment. NEPA also established the Council on Environmental Quality (CEQ). NEPA procedures require that environmental information be made available to the public before decisions are made. Information contained in NEPA documents must focus on the relevant issues in order to facilitate the decision-making process.

National Register of Historic Places (NRHP)

A register of districts, sites, buildings, structures, and objects important in American history, architecture, archaeology, and culture, maintained by the Secretary of the Interior under authority of Section 2(b) of the Historic Sites Act of 1935 and Section 101(a)(1) of the National Historic Preservation Act of 1966, as amended.

Native Americans

Used in the collective sense to refer to individuals, bands, or tribes who trace their ancestry to indigenous populations of North America prior to Euro-American contact.

Nitrogen Dioxide (NO_2)

Gas formed primarily from atmospheric nitrogen and oxygen when combustion takes place at high temperature. NO_2 emissions contribute to acid deposition ("acid rain") and formation of atmospheric ozone. One of the six pollutants for which there is a national ambient standard.

Nitrogen Oxide (NO_X)

Gases formed primarily by fuel combustion, which contribute to the formation of acid rain. Hydrocarbons and nitrogen oxides combine in the presence of sunlight to form ozone, a major constituent of smog.

Noise Attenuation

The reduction of a noise level from a source by such means as distance, ground effects, or shielding.

Nonattainment Area

An area that has been designated by the U.S. EPA or the appropriate state air quality agency as exceeding one or more National or State Ambient Air Quality Standards.

Outlease

Contract by which the government transfers exclusive possession of real estate or facilities for a specified term.

Ozone (ground level)

A major ingredient of smog. Ozone is produced from reactions of hydrocarbons and nitrogen oxides in the presence of sunlight and heat. Some 68 areas, mostly metropolitan areas, did not meet a December 31, 1987 deadline in the Clean Air Act for attaining the ambient air quality standard for ozone.

Polychlorinated Biphenyl (PCB)

Any of a family of industrial compounds produced by chlorination of biphenyl. These compounds are noted chiefly as an environmental pollutant that accumulates in organisms and concentrates in the food chain with resultant pathogenic and teratogenic effects. They also decompose very slowly.

Prevention of Significant Deterioration (PSD)

In the 1977 Amendments to the Clean Air Act, Congress mandated that areas with air cleaner than required by National Ambient Air Quality Standards be protected from significant deterioration. The Clean Air Act's PSD program consists of two elements: requirements for Best Available Control Technology on major new or modified sources and compliance with an air quality increment system.

San Francisco

The City of San Francisco, non-government reference.

State Historic Preservation Officer (SHPO)

The official within each state, authorized by the state at the request of the Secretary of the Interior, to act as liaison for purposes of implementing the National Historic Preservation Act.

Sulfur Dioxide (SO_2)

A toxic gas that is produced when fossil fuels, such as coal and oil, are burned. SO_2 is the main pollutant involved in the formation of acid rain. SO_2 can irritate the upper respiratory tract and cause lung damage. During 1980, some 27 million tons of sulfur dioxide were emitted in the United States, according to the Office of Technology Assessment. The major source of SO_2 in the United States is coal-burning electric utilities.

Total Daily Person Trips

The number of trips made by individual persons into and out of a designated area on a typical week day, usually measured Tuesday through Thursday.

Total Daily Vehicle Trips

The number of trips made by vehicles into and out of a designated area on a typical week day, usually measured Tuesday through Thursday.

Total Suspended Particulates (TSP)

The particulate matter in the ambient air. The previous national ambient air quality standard for particulates was based on TSP levels; it was replaced in 1987 by an ambient standard based on PM_{10} levels.

U.S. Environmental Protection Agency (U.S. EPA)

The independent federal agency, established in 1970, that regulates federal environmental matters and oversees the implementation of federal environmental laws.

Zoning

The division of a municipality (or country) into districts for purpose of regulating land use, types of building, required yards, necessary off-street parking, and other prerequisites to development. Zones are generally shown on a map. The zoning ordinance specifies requirements for each zoning category.

Zoning Terms

Residential Districts

RH-1 allows residential housing at a density of one dwelling unit per lot while RH-2 allows two dwelling units per lot. RM-3 allows multiple unit residential housing at a maximum of one unit per 800 square feet of lot area. Permitted uses in the RM-3 district include group housing, boarding, and religious orders. Each of the residential zones allows other low intensity uses not in conflict with residential.

Commercial Districts

Neighborhood commercial zones are NC-1, NC-3, and NC-S and *commercial zones* are C-1, C-2 and C-M. NC-1 allows residential uses on all levels and retail establishments on the ground level. Most low intensity sales and service establishments are permitted along with residential dwelling units at a density of one unit for every 800 square feet of lot area. NC-3 allows residential uses at all levels and retail establishments on the first and second levels. Residential dwelling units are allowed at a density of one unit for every 600 square feet of lot area. NC-2 allows high intensity retail sales and service on the first and second levels. Residential dwelling units are allowed at a density of one unit for every 800 square feet of lot area.

C-1 (Neighborhood Shopping) is intended for the supplying of retail goods and personal services at convenient locations for the needs of nearby residents. The C-1 Districts are usually surrounded by residential land uses. C-2 (Community Business) is intended to provide convenience goods and comparison shopping goods and services on a general or specialized basis to a city-wide or a regional market area. Permitted uses include retail, offices, restaurants, and residential buildings. C-M allows certain heavy commercial uses not permitted in other commercial districts. The emphasis is upon wholesaling and business services, but some light manufacturing and processing are also permitted though often limited to less than an entire building. Permitted uses include wholesale, storage, repair, retail, offices, and service uses.

Industrial Districts

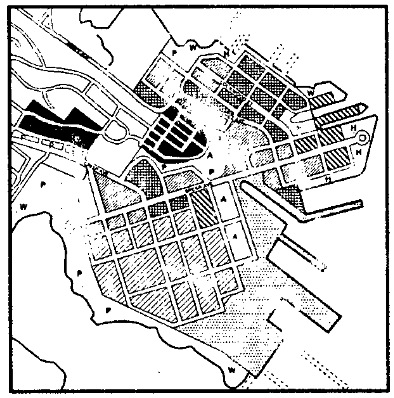
M-1 is a light industrial zone that allows smaller industries dependent upon truck transportation while the M-2 zone allows larger industries served by rail and water transportation and by large utility lines. The larger industries have fewer screening and enclosure requirements than the smaller industries, but more stringent restrictions on use and location.

Public Use Districts

The P District zoning designation applies to land owned by a governmental agency that is in some form of public use, including open space.

224 *This page intentionally left blank.*

9 EIS Distribution List



CHAPTER 9: EIS DISTRIBUTION LIST

9. EIS DISTRIBUTION LIST

The following individuals, agencies, and organizations have been sent a copy or have received a Notice of Availability of this Environmental Impact Statement.

Title	Last	First	Organization	Branch
Elected Officials				
			The Honorable Barbara Boxer	U.S. Senator
			The Honorable Dianne Feinstein	U.S. Senator
			The Honorable Jackie Speier	State Senator, 8th District
			The Honorable John Burton	State Senator, 3rd District
			The Honorable Nancy Pelosi	8th Congressional District
			The Honorable Tom Lantos	12th Congressional District
			The Honorable Willie L. Brown, Jr.	Mayor, San Francisco
Federal Agencies				
	Sachs	Steven	Department of Housing and Urban Development	Community Planning and Development, 9ADE
	Reynolds	John J.	Department of the Interior	National Park Service
	Sanderson Port	Patricia	Department of the Interior	Office of the Secretary
	White	Wayne	Department of the Interior	Fish and Wildlife Service
			Federal Aviation Administration	
	Doszkocs	Tom	General Services Administration, Region 9	Property Disposal Division (9PR)
	Sullivan	Laurie	National Oceanic & Atmospheric Administration	c/o U.S. EPA Region 9 (H-1-2)
			U.S. Army Corps of Engineers	Sacramento District
Commanding Officer			U.S. Coast Guard	Marine Safety Office, San Francisco Bay
	Bybee	Jim	U.S. Department of Commerce	National Marine Fisheries Service
	O'Brien	Pat	U.S. Department of Defense	Office of Economic Adjustment
	Ryett	Paul	U.S. Department of Defense	Office of Economic Adjustment
	Hakola	David	U.S. Department of Education	Real Property Group
	Hoops	George	U.S. Department of Education	Federal Real Property Assistance Program
Director	Deason	Dr. Jon	U.S. Department of the Interior	Office of Environmental Policy and Compliance
			U.S. Department of the Interior	Bureau of Indian Affairs
	Harris	Dan	U.S. Department of Transportation	Federal Highway Administration
			U.S. EPA	Office of Federal Activities

Title	Last	First	Organization	Branch
Chief	Farrell	David J.	U.S. EPA Region 9	Office of Federal Activities
	Moyer	Bob	U.S. EPA Region 9	Office of Regional Counsel
	Trombadore	Claire	U.S. EPA Region 9	
	Haas	James	U.S. Fish & Wildlife Service	Division of Ecological Services
Commander	Gustafson	Jim	Caretaker Site Office	
			Commander-in-Chief Pacific Fleet	(CINPACFLT) (Code N44)
			COMNAVBASE, San Diego	Code N45, Environmental Programs
			Defense Technical Information Center	DTIC-BLS
State Agencies				
			California Air Resources Board	
	Delaplaine	Mark	California Coastal Commission, Land Use	
	Michael	Martin	California Department of Fish and Game	CERCLA/NRDA Unit
			California Department of Fish and Game	Region 3, Coastal Region
	Todd	Bob	California Department of Parks and Recreation	
	Curtiss	Kit	California Department of Transportation	Office of Transportation Planning
District Director	Yahata	Harry	California Department of Transportation	District 4
			California Department of Water Resources	
	Heusinkueld	Valerie	California EPA	Department of Toxic Substances Control
	Moskat	Gunther W.	California EPA	Department of Toxic Substances Control
	Jordan	Leigh	California Historical Resources Information Systems	Northwest Information Center
	Rivasplata	Antero A.	California Office of Planning and Research	State Clearinghouse
	Nevins	Terri	California State Coastal Conservancy	

Title	Last	First	Organization	Branch
Public Lands Manager	Plummer	Dave	California State Lands Commission	
SHPO	Abeyta	Daniel	California State Office of Historic Preservation	
	McAdam	Steve	San Francisco Bay Conservation & Development Commission	
	Scourtis	Linda	San Francisco Bay Conservation & Development Commission	
	Leland	David	San Francisco Bay Regional Water Quality Control Board	Groundwater Protection and Waste Containment Division
	Nichols	Mary D.	The Resources Agency	
Regional Agencies				
	Ryder	Suzan	Association of Bay Area Governments	
Manager	Zimmerman	Karita	BART	Environmental Compliance
	Fortney	Cathrine	Bay Area Air Quality Management District	
	Brittle	Chris	Metropolitan Transportation Commission	Metro Center
Local Agencies				
General Manager	Klein	Lawrence	Bureau of Energy Conservation	Hetch Hetchy Water & Power
	Anatore	Dennis A.	City and County of San Francisco	Planning Commission
President	Chinchilla	Hector	City and County of San Francisco	Planning Commission
Director	Chiu	Frank	City and County of San Francisco	Department of Building Inspection
	Hills	Richard	City and County of San Francisco	Planning Commission
	Joe	Cynthia	City and County of San Francisco	Planning Commission
	Martin	Lawrence B.	City and County of San Francisco	Planning Commission
	Mills	Beverly	City and County of San Francisco	Planning Commission
	Robinson	Joel	City and County of San Francisco	Recreation and Park Department
Vice President	Theoharis	Anita	City and County of San Francisco	Planning Commission
Secretary			City and County of San Francisco	Planning Commission
Secretary	Green	Andrea	Landmarks Preservation Advisory Board	
	Henderson	Paul	Office of District Attorney	
	Kilstrom	Keri	Port of San Francisco	
	Kennedy	Willie B.	Redevelopment Agency Site Office	

Title	Last	First	Organization	Branch
	Brownell	Amy	San Francisco Department of Public Health	Bureau of Toxics
Manager	Lee	Tommy	San Francisco Department of Public Works	Bureau of Environmental Regulation and Management
	McDowell	Willie	San Francisco Department of Public Works	
	Bennett	Rod	San Francisco Fire Department	
	Whittle	Deborah	San Francisco Housing Authority	
Transit Planner	Lowe	James	San Francisco Municipal Railway	
Captain	Roth		San Francisco Police Department	
General Manager	Moran	Anson	San Francisco Public Utilities Commission	
	Conrad	Tom	San Francisco Redevelopment Agency	
			San Francisco Redevelopment Agency	SFRA Commissioners
Superin-tendent	Rojas	Waldemar	San Francisco Unified School District	
General Manager	Mullane	John	San Francisco Water Department	
Organizations				
	Walker	Charlie	African American Truckers Association	
	Jacobuitz	Bob	AIA San Francisco Chapter	
	Norman	Alvin	Al Norman Plumbing	
Chairperson	Zwierlein	Irene	Amah Tribal Band	
	Bach	Eve	ARC Ecology	
	Bloom	Saul	ARC Ecology	
	Shirley	Chris	ARC Ecology	
	Mayer	Richard	Artists Equity Association	
	Hestor	Sue	Attorney at Law	
	Feinstein	Arthur	Audubon Society	Golden Gate Chapter
	Kirwan	John	Averbeck Environmental	
			B. Wilson & Associates	
	Taylor	Nancy	Baker & McKenzie	
			Bay Area Council	
	Crowder	Nia	Bay View Hunters Point Health Task Force	

Title	Last	First	Organization	Branch
	Herz	Michael	Baykeeper Society	
	Stark	Rebecca	Bayview-Hunters Point Crime Prevention Council	
	Sowells	Darlene J.	Bayview-Hunters Point Ecumenical Council	
	Gross	Shirley	Bayview-Hunters Point Foundation	Administration Offices
	Jackson	Espanola	Bayview Coordinating Council	
	House	Ralph	Bayview Hill Neighborhood Association	
	Webb	Olin	Bayview Hunters Point	CDC
	Pierce	Karen	Bayview Hunters Point Democratic Club	
	McCoy	Harold	Bayview Merchants Association	
	Westbrook	Gwendolyn	Black Leadership	
	Dyett	Michael	Blayney-Dyett	
			BP Builders Exchange	
	Daimond	Susan R.	Brobeck, Pheleger, Harrison	
	Madison	Scott	Businesses of Hunters Point Shipyard	
Executive Director	Davis	George W.	BVHP Multipurpose Sr. Services, Inc.	
	Togia	Lorraine	BVHP Multipurpose Sr. Services, Inc.	
	Robinson	Alma	CA Lawyers for the Arts	
	Williams	Alfred	CAC Consultant	
Chair	Jones	Shirley	Caheed Child Care Center	
	Cahill	Jay	Cahill Contractors, Inc.	
			California Environmental Trust	
	Sigg	Jake	California Native Plant Society	Yerba Buena Chapter
	Rhine	Bob	Capital Planning Department	UCSF
	Buxton	Marti	Catellus	
	Noordzij	Duco	CBE	
	Thomas	Mike	CBE	
	Chang	Pamela	CBE / SAPER!	
	Dale LeWinter	Marcia	CDA Expert Network	
	Lester	Carol	Chicago Title	
	Soule	Ken	Chickering & Gregory	

Title	Last	First	Organization	Branch
			Chinatown Resource Center	
	Marmer	Jeff	Coalition for Better Wastewater Solutions	
	Murphy	Dorice	Coalition For San Francisco Neighborhoods	
	Beeras	James	Coalition on Homelessness	
	Purcell	Dennis	Coblentz, Cahen, McCabe and Breyer	
	Gendel	Neil	Consumer Action	
	Welch	Calvin	Council of Community Housing Organizations	
	Farrell	Lawrence	Cushman Wakefield of California, Inc.	
	Stiefvater	Wayne	Cushman Wakefield of California, Inc.	
Reverend	Hawkins	Cordell	Double Rock Church	
			Downtown Association of San Francisco	
			EIP Associates	
			Environmental Science Associates, Inc.	
			Farella, Braun & Martel	
State Coordinator	Stevens	Doug	Food and Fuel Retailers For Economic Equality	
	Platt	Mrs. Bland	G. Bland Platt Associates	Historic Preservation Consultants
	Gordon	Peter	Gensler and Associates	
	Vettel	Steven L.	Gladstone & Vettel, Attorney at Law	
	Eng	Anne Lee	Golden Gate University	School of Law
	Crow	Paula	Goldfarb & Lipman	
	LeStrange	Eric	Greenwood Press, Inc.	
			Gruen, Gruen & Associates	
	Freund	Frederic	Hanford Freund & Co.	
	Smith	Reuben	Hunters Point Boys and Girls Club	
			Hunters Point Community Youth Park	
	Viera	Julia	Hunters Point Homeowners Association	
	Middleton	Julia	Hunters Point Recreation Center	

Title	Last	First	Organization	Branch
	Hardin	Heidi	Hunters Point Shipyard Artists Association	
	Hope	Linda	Hunters Point Shipyard Artists Association	
Chairperson	Sayer	Ann Marie	Indian Canyon Mutsun Band of Costanoan	
Executive Director	Logan	Gaylon	Infusion One	
	Fox	Jill	Innes Avenue Coalition,	ARTS Democratic Club
	Friesema	H. Paul	Institute for Policy Research	Northwestern University
	Edwards	Vida	Jackie Robinson Garden Apartments	Bayview Hunters Point
			Jon Twichell Associates	
	Hoffman	Elliot	Just Desserts	
	Vargo	Jan	Kaplan/McLaughlin/Diaz	
	Kern	Douglas	Kern Mediation Group	
	Bertone	Don	Little Hollywood Improvement Association	
			Mariners Village Homeowners Association	
	Maxwell	Sally	Maxwell & Associates	
			McKinnon Avenue Community Club	
	Tone	Jerry	Montgomery Capital Corporation	
	Reid	Douglas	Moran Heights Homeowners Association	
	Herber	Jacob	Morrison & Foerster	
Chairperson	Cambra	Rosemary	Muwekma Indian Tribe	
	Sneed	Regina	National Lawyers Guild	
			Natural Resources Defense Council	
	Murray	Samuel A.	New Bayview Committee	
	Govender	Manjala	New HP Homeowners Assoc.	
	Nichols	Louise	Nichols-Berman	
	Galvan	Andrew	Ohlone Group	
	Kehl	Jakki	Ohlone Group	
	Marquis	Kenneth	Ohlone Group	
	Orozco	Patrick	Ohlone Group	
	Rodriguez	Ella Mae	Ohlone Group	

Title	Last	First	Organization	Branch
	Yamane	Linda G.	Ohlone Group	
Father	Ullery	Kirk	Our Lady of Lourdes	
	Hardee	Will	Pacific Gas & Electric Company	
			Page & Turnbull	
	Zeller	Marie	Patri-Burhage-Merken	
	Siems	Marilyn L.	Pilsbury, Madison & Sutro	
	Root	Gloria	Planning Analysis & Development	
	Gray	Tony	Precision Transport	
	Jones	Reverend Calvin	Providence Baptist Church	
	Bass	Peter	Ramsay/Bass Interest	
	Law	Sally Ann	RAND	
	Hellen	Roy	Reimer Associates	
	Holmes	Marc	Restoring the Bay Campaign	
	Reuben	James	Reuben & Alter	
			Rockerfeller & Associates Realty L.P.	
	Foster	Thomas N.	Rothschild & Associates	
	Caplan	Leslie	San Francisco Baykeeper	Clean Waterfront Project
	Lozeau	Michael	San Francisco Baykeeper	
Executive Director	Casey	Donna	San Francisco Beautiful	
	Smith	Stanley	San Francisco Building & Construction Trades Council	
			San Francisco Chamber of Commerce	
Chancellor	Anderson	Del	San Francisco Community College District	
	Christensen	Pat	San Francisco Council of District Merchants	
	Brittan	Georgia	San Francisco for Reasonable Growth	
	Allman	Richard	San Francisco Housing & Tenants Council	
	Johnson	Walter	San Francisco Labor Council	
	Lucas	Lorraine	San Francisco League of Neighborhoods	
	Dutra	Louise	San Francisco Organizing Project	

Title	Last	First	Organization	Branch
	Chappel	James	San Francisco Planning and Urban Research Association	
	Frazier	Rochele	San Francisco Senior Escort Program	
	Miller	Mary Ann	San Francisco Tomorrow	
	Morrison	Jane	San Francisco Tomorrow	
	Clary	Jennifer	San Francisco Tomorrow	
	Kilroy	Tony	San Francisco Tomorrow	
	Mix Jr.	George	San Francisco Urban League	
	Nakatani	Keith	Save San Francisco Bay Association	
	Loftis	Sharian D.	SECF	
			Sedway & Cooke Associates	
	Washington	Osceola	Senior Citizen Bayview	
Executive Director	Nuru	Mohammed	SF League of Urban Gardeners	
	Morishita	Leroy	SFSU Admin. Plan	
	Kremer	Dave	Shartsis Freise & Ginsburg	
	Billote	Bill	Shipyard Tenants Steering Committee	
	Wright	Patricia	Shoreview Resident Associate	
			Sierra Club	San Francisco Bay Chapter
			Sierra Club	San Francisco Group
	Kriken	John	Skidmore, Owings & Merrill	
	Alschuler	Karen	SMWM	
	Lewis	Olive	Solem & Associates	
	Pitcher	Alex	South Bayshore CDC	
	Browning	Sy-Allen	South East Economic Group (SEED)	
	Lantsberg	Alex	Southeast Alliance for Environmental Justice (SAEJ)	
	Wilson	Claude	Southeast Alliance for Environmental Justice (SAEJ)	
	Brown	Bernice	Southeast Community College	
	Garlington	Ethel	Southeast Community Facility	
	Palega	Sulu	Southeast Community Facility Commission	
Center Director	Selmar	Cynthia	Southeast Health Center	
			Square One Film & Video	

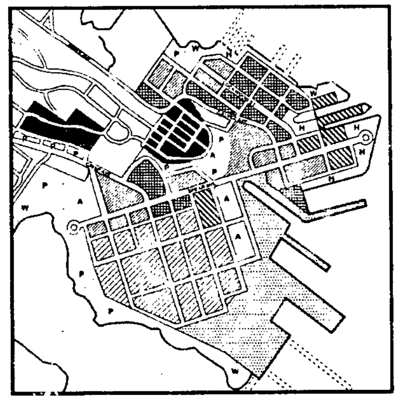
Title	Last	First	Organization	Branch
	Tandler	Robert S.	Steefel, Levitt & Weiss	
	Bardis	John	Sunset Action Committee	
			Sustainable San Francisco	
	Witherspoon	Terry	Tetra Tech, Inc.	180 Howard Street, Suite 180
Executive Director	Bahlman	David	The Foundation for San Francisco's Architectural Heritage	
			The Jefferson Company	
	Legallet	Robert	The Normandy Associates	
	Jones	Henrietta	Third Street Task Force	
	Lezama	Glen	Union Bank	
	Dominski	Tony	West Edge Design	
	Tatum	Carol S.	Youth Community Developers	
	Aguirre	Ena	Bay View Hunters Point Advocacy	
Individuals				
	Allan	Peter		
	Arlington	Ethel		
	Autry	James		
	Bauer	Lisa		
	Beck	Albert		
	Bell McDowell	Willie		
	Burgess	Ollie		
	Choy Ong	Cynthia		
	Cincotta	David		
	Daniels	Michelle		
	Dominski	Ahna		
	Ellis	Janet		
	Ford	Theresa L.		
	Ford	Theodis		
	Frazier	Rochelle		
	Gaudain	Silk		
	Harris	Michael		
	Havey	Tom		
	Hayes	Ellen		
	Henry-Ellis	Michelle		
	Hines	Toni		
	Huggins	Karen		
	Jackson	David E.		
	James	Wedrell		

Title	Last	First	Organization	Branch
	Jones	Alvin		
	Jones	Henrietta		
	LaMell	Anthony		
	Lewis	Keith		
	Mackin	Edward		
	Madison	Scott		
	Maxwell	Sophenia		
	McCoy	Ilean		
	McDaniels	Carolyn		
	Miller	Cliff		
	Mousseaux (Mcleod)	Jenny		
	O'Neill	Francis J.		
	Oertel	Diana		
	O'Neill	Frank		
	Papazian	Hali		
	Phillips	James		
	Pierce	Karen		
	Reed	Judy		
	Richardson	Linda		
	Sanger, Esq.	John		
	Sims	Willa		
	Suet Barkley, Esq.	Alice		
	Tui	Manuma		
	Ventresca	Joel		
	Vincent	Dorris M.		
	Walker	Shellie		
	Washington	Caroline		
	Weicker	Steven		
	White	Bruce		
	White	Gwenda		
	White III	Nathaniel		
	Willette	Eunice		
	Williams	Jessie		
	Wrench	Jane		
	Yamaguchi	Lori		
	Banks	Jesse		

Title	Last	First	Organization	Branch
	King	Leroy		c/o ILWU
	Thibeaux, Jr.	Leon		
Newspapers				
			Asian Week	
			Associated Press	
			Bay City News Service	
	Ratcliff	Mary	Bayview Newspaper	
			Chinese Times	
			El Bohemio News	
			International Daily News	
			Korea Central Daily News	
			Nichi Bei Times	
			Philippine Examiner Today	
			Potrero View Newspaper	
			San Francisco Bay Guardian	
			San Francisco Bay Times	
			San Francisco Business Times	
	King	John	San Francisco Chronicle, Press Office	
	Adams	Gerald	San Francisco Examiner	
	Nguyen	Daisy	San Francisco Independent	
	Wilcox	Linda	San Francisco Independent	
			San Francisco Weekly	
			The New Fillmore Newspaper	
	Washington	Huel	The Sun Reporter	
			The Tenderloin Times	
Libraries				
	Wingerson	Kate	Government Documents	San Francisco Main Public Library
			Government Publications Department	San Francisco State University
			Hastings College of Law - Library	
			San Francisco Public Library	Ann E. Waden Branch
			Stanford University Libraries	Johnson Library of Government Documents
			UC Berkeley	Institute of Government Studies

Appendix A

Public Participation



CONTENTS PAGE

A PUBLIC PARTICIPATION

Public Scoping for EIS/EIR **A-1**

Scoping Letter A-1
Notice of Intent A-4
Notice of Preparation A-6
Distribution List A-16
Newspaper Advertisement A-25
Public Scoping Attendance List A-26
Agencies, Organizations, and Individuals Who Responded to Scoping Letters A-27

Public Review on November 1997 Draft EIS/EIR **A-70**

Transmittal Letter A-70
Notice of Availability A-72
Notice of Completion A-74
Newspaper Advertisement A-76
Distribution List for November 1997 Draft EIS/EIR A-77

Public Review on October 1998 *Revised* Draft EIS/EIR **A-81**

Transmittal Letter A-81
Notice of Availability A-84
Notice of Completion A-86
Newspaper Advertisement A-88
Distribution List for November 1997 Draft EIS/EIR A-89

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, WEST
NAVAL FACILITIES ENGINEERING COMMAND
900 COMMODORE DRIVE
SAN BRUNO, CALIFORNIA 94066-5006

IN REPLY REFER TO:

5090.1B

June 27, 1995

PUBLIC NOTICE

SUBJECT: NOTICE OF SCOPING OF PUBLIC CONCERNS REGARDING AN ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT FOR THE DISPOSAL AND REUSE OF THE FORMER NAVAL SHIPYARD HUNTERS POINT, SAN FRANCISCO, CALIFORNIA

The United States Department of the Navy in coordination with the City and County of San Francisco is preparing a joint Environmental Impact Statement (EIS)/Environmental Impact Report(EIR) on the disposal and proposed reuse of the former Naval Shipyard, Hunters Point property and structures located in San Francisco, California. The Defense Base Closure and Realignment Act (Public Law 101-510), as implemented by the 1993 base closure process, directs the U.S. Navy to close Naval Station Treasure Island and its off-station property, Hunters Point Annex (the former Naval Shipyard, Hunters Point). The EIS/EIR shall be prepared in accordance with Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and the California Environmental Quality Act (CEQA). The Navy shall be the EIS lead agency and the City of San Francisco shall be the EIR lead agency.

Federal, state, and local agencies, and interested individuals are encouraged to participate in the scoping process for the EIS/EIR to determine the range of issues and alternatives to be addressed. **A public scoping hearing** to receive oral and written comments regarding the proposed disposal and potential reuse of former Naval Shipyard, Hunters Point, will be held on **Wednesday July 12, 1995 from 5:00 to 7:00 p.m. at the Southeast Community Facility,** located at 1800 Oakdale Avenue, San Francisco, California.

The former Naval Shipyard is within the jurisdiction of the City of San Francisco, and covers approximately 500 acres of the southeast San Francisco waterfront. The property is developed for industrial ship repair facilities and associated buildings, including limited support facilities (residential, recreational). The EIS/EIR will address the disposal of the property and the potential impacts associated with potential reuses of the property.

The EIS/EIR will address the potential significant impacts to the environment that may result from implementation of two reuse alternatives (a preferred alternative and one other alternative) and a no-action alternative. The Hunters Point Shipyard Reuse Plan (based on a Hunters Point Land Use Draft Plan dated March 1995 and developed by the city and County of San Francisco Planning Department with the San Francisco Redevelopment Agency in conjunction with the Mayor's Citizens Advisory Committee) will constitute the preferred alternative. The preferred alternative has been endorsed by the San Francisco Planning and Redevelopment Commission and the Citizens Advisory Committee. The preferred reuse alternative would provide approximately 6,500 jobs, 1,300 residential units, 1.1 million square feet of industrial use (such as ship repair, ship maintenance, trucking and courier service, equipment leasing, printing and publishing, motion picture production, etc.); 300,000 square feet of research and development uses (such as data processing, telecommunications, etc.); 555,000 square feet of cultural/institutional use (such as large education and training facilities, museums, theaters, galleries, restaurants, etc.); 1.1 million square feet of mixed use (such as artist studios, live/work space, recording studios, research and development, hotel/conference facilities, retail, etc.); and 6.1 million square feet of open space. The second alternative would be a reduced development of approximately 5,000 jobs, 600 residential units, 900,000 square feet of industrial use, 250,000 square feet of research and development use, 425,000 square feet of cultural/institutional use, 850,000 square feet of mixed use and 6.1 million square feet of open space. The "no action" alternative would have the former Naval Shipyard remain federal government property, in a continuing caretaker status.

In accordance with federal regulation implementing NEPA, the U.S. Navy takes this opportunity to invite the public to express, in writing, their comments and concerns regarding the above action. Affected federal, state, and local agencies and other interested parties are invited to submit written comments to:

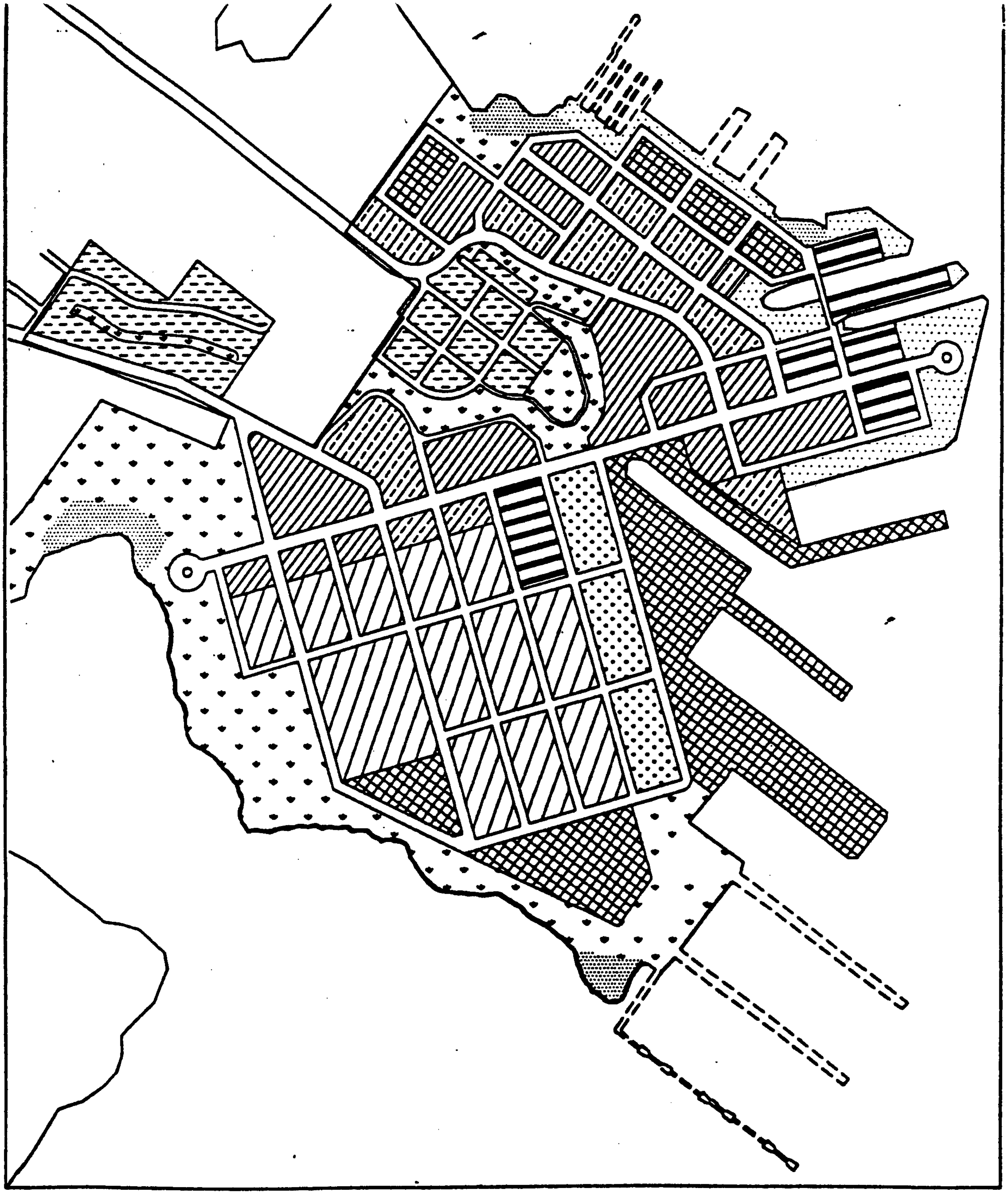
Ms. Mary Doyle (Code 185)
Engineering Field Activity West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, CA 94066-5006

Ms. Doyle's fax number is (415) 244-3737, and telephone is (415) 244-3024. Written comments must be received by July 30, 1995 to be considered in this scoping process.

For information concerning the EIR, please contact Ms. Barbara Sahm, of the San Francisco Planning Department, Office of Environmental Review, telephone (415) 558-6381. For information regarding the Hunters Point Shipyard Land Use Plan, please contact Mr. Byron Rhett, Hunters Point Shipyard Project Manager, San Francisco Redevelopment Agency, telephone (415) 749-2576, or Mr. Paul Lord, Hunters Point Shipyard Planning Manager, San Francisco Planning Department, telephone (415) 558-6311.

John H. Kennedy
John H. Kennedy 6/27/95
Head, Environmental Planning Branch

Attachment



Hunters Point Shipyard

LAND USE DRAFT PLAN

HUNTERS POINT SHIPYARD

Office of Military Base Conversion

- Education/Cultural/ Historical
- Industrial
- Research & Development
- Residential
- Mixed Use
  - Retail/Gallery
  - Artist Studio
  - Artist Live/Work
  - Warehouse
  - Hotel/Conference
- Future Development

Open Space

- Passive
- Active
- Hard Surface
- Possible Wetland Restoration

NORTH

[Federal Register: June 28, 1995 (Volume 60, Number 124)]
[Notices]
[Page 33392-33393]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr28jn95-56]

===

DEPARTMENT OF DEFENSE

Department of the Navy

Intent To Prepare an Environmental Impact Statement/Environmental Impact Report for the Disposal and Reuse of the Former Naval Shipyard **Hunters Point**, San Francisco, CA

Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council on Environmental Quality regulations (40 CFR Parts 1500-1508) and the California Environmental Quality Act (CEQA), the Department of the Navy in coordination with the City and County of San Francisco is preparing a joint Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) for the disposal and potential reuse of the former Naval Shipyard, **Hunters Point** property and structures located in San Francisco, California. The Navy shall be the EIS lead agency and the City of San Francisco shall be the EIR lead agency. The Defense Base Closure and Realignment Act (Pub. L. 101-510) of 1990, as implemented by the 1993 base closure process, directed the U.S. Navy to close Naval Station Treasure Island and its off-station property, **Hunters Point** Annex (the former Naval Shipyard, **Hunters Point**). This EIS/EIR shall be prepared for the disposal and reuse of former Naval Shipyard **Hunters Point**. A separate EIS/EIR shall be prepared for the disposal and reuse of Naval Station, Treasure Island.

The former Naval Shipyard is within the jurisdiction of the City of San Francisco. It covers approximately 500 acres of the southeast San Francisco waterfront. The property is developed with industrial ship repair facilities and associated buildings, including limited support facilities (residential, recreational). The EIS/EIR will address disposal of the property and the potential impacts associated with potential reuses of the property.

The EIS/EIR will address the potential significant impacts to the environment that may result from the implementation of two reuse alternatives and a ``no action'' alternative. The **Hunters Point** Shipyard Reuse Plan (based on a **Hunters Point** Land Use Draft Plan dated March 1995 developed by the City and County of San Francisco Planning Department with the San Francisco Redevelopment Agency in conjunction with the Mayor's Citizens Advisory Committee) will constitute the preferred alternative. The preferred alternative has been endorsed by the San Francisco Planning & Redevelopment Commissions and the Citizens Advisory Committee. The preferred reuse alternative would provide approximately 6,500 jobs, 1,300 residential units, 1.1 million square feet of industrial use (such as ship repair, ship maintenance, trucking and courier services, equipment leasing, printing and publishing, motion picture production, etc.), 300,000 square feet of research & development use (such as data processing, telecommunication, etc.) 555,000 square feet of cultural/institutional use (such as large education and training facilities, museums, theaters, galleries, restaurants, etc.), 1.1 million square feet of mixed use (such as artist studios, live/work space, recording studios, research and development, hotel/conference facilities, retail, etc.), and 6.1 million square feet of open space. The second alternative would be a reduced development of approximately 5,000 jobs, 600 residential units, 900,000 square feet of industrial use, 250,000 square feet of research & development use, 425,000 square feet of cultural/institutional use, 850,000 square feet of mixed use, and 6.1 million square feet of open space. The ``no action'' alternative would have the former Naval Shipyard remain federal government property, in a continuing caretaker status.

Federal, state, and local agencies, and interested individuals are encouraged to participate in the scoping process for the EIS/EIR to determine the range of issues and alternatives to be addressed. A public scoping meeting to receive oral [[Page 33393]] and written comments will be held at 5:00 p.m. on Wednesday, July 12, 1995, at the Southeast Community Facility, 1800 Oakdale Avenue, San Francisco, California. In the interest of available time, each speaker will be asked to limit oral comments to five (5) minutes. Longer comments should be summarized at the public meeting or mailed to the address listed at the end of this announcement. All written comments should be submitted within 30 days of the published date of this notice to Ms. Mary Doyle (Code 185), Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, California 94066-5006, telephone (415) 244-3024, fax (415) 244-3737. For information concerning the EIR, please contact Ms. Barbara Sahm, of the San Francisco Planning Department, Office of Environmental Review, telephone (514) 558-6381. For further information regarding the **Hunters Point** Shipyard Land Use Plan, please contact Mr. Byron Rhett, **Hunters Point** Project Manager of the San Francisco Redevelopment Agency, telephone (415) 749-2576 or Mr. Paul Lord, **Hunters Point** Planning Manager of the San Francisco Planning Department, telephone (415) 538-6311.

Dated: June 23, 1995.
L.R. McNees,
LCDR, JAGC, USN, Federal Register Liaison Officer.
[FR Doc. 95-15846 Filed 6-27-95; 8:45 am]
BILLING CODE 3810-FF-M

PLANNING DEPARTMENT
City and County of San Francisco 1660 Mission Street San Francisco, CA 94103-2414
(415) 558-6378 PLANNING COMMISSION FAX: 558-6409 ADMINISTRATION FAX: 558-6426 CURRENT PLANNING/ZONING FAX: 558-6409 LONG RANGE PLANNING FAX: 558-6426

NOTICE OF PREPARATION

To: Responsible and Trustee Agencies

From: City and County of San Francisco
Department of City Planning
Office of Environmental Review

Re: Notice of Preparation
Hunters Point Shipyard Base Reuse Plan

The City and County of San Francisco is working with the U.S. Navy, Engineering Field Activity West (EFA West), Naval Facilities Engineering Command, to prepare a joint Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) pursuant to State CEQA Guidelines § 15222 & 15226 for the following project:

94.061 Hunters Point Shipyard Base Reuse Plan.

The U.S. Navy has prepared a Notice of Intent for the EIS. A formal scoping meeting will be held on July 12 at 5:00 p.m. at the Southeast Community Center, 1800 Oakdale Avenue, San Francisco.

The project consists of alternative land use plans and development programs for the Hunters Point Shipyard. While Naval use of the shipyard ended in about 1974, the site remains under Navy jurisdiction. It was included in the second Base Realignment and Closure list (BRAC II) in 1991. A general description of the alternatives to be analyzed in the EIS is included in the attached Initial Study.

We need to know the views of your agency regarding the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the environmental document in decisionmaking related to the project.

The State CEQA Guidelines prescribe that responses must be submitted within 30 days of receipt of this notice. Please send responses to Barbara W. Sahm, Environmental Review Officer, at the letterhead address. Telephone inquiries should be directed to me at 415-558-6381. Copies of scoping letters directed to the U.S. Navy at EFA West are also welcome in response to this Notice of Preparation.

Barbara W. Sahm
Barbara W. Sahm
Environmental Review Officer

June 28, 1995
date

U:\bws\wp51\hpnop.695

NOTICE THAT AN ENVIRONMENTAL IMPACT REPORT IS DETERMINED TO BE REQUIRED

Date of this Notice: June 30, 1995

Lead Agency: City and County of San Francisco, Department of City Planning
1660 Mission Street, San Francisco, CA 94103

Agency Contact Person: Barbara W. Sahm **Telephone:** (415) 558-6381

Project Title: 94.061E Hunters Point Shipyard Base Reuse Plan

Project Sponsor: U.S. Navy, EFA West and City/County of San Francisco

Project Contact Person: Paul Lord, San Francisco Planning Department

Project Address: Naval Shipyard, Hunters Point

City and County: San Francisco

Project Description: The proposed project is a Reuse Plan for the former Hunters Point Naval Shipyard, including educational, arts-related, cultural, retail, business services, industrial, maritime, residential and recreational/open space land uses. The project would require amendments to the San Francisco Master Plan to add an Area Plan, Preparation of zoning controls and amendments to the San Francisco Planning code, preparation of a Redevelopment Project Plan, and development controls and strategies. Approvals would be required from the San Francisco Planning Commission, the San Francisco Redevelopment Agency Commission, the San Francisco Board of Supervisors and the Mayor on the various planning documents and ordinances, and actions by the U.S. Navy and Department of Defense on disposition of the Naval Shipyard.

THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED. This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Section 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance), and the following reasons, as documented in the Environmental Evaluation (Initial Study) for the project, which is attached.

Deadline for Filing of an Appeal of this Determination to the City Planning Commission: July 10, 1995.

An appeal requires: 1) a letter specifying the grounds for the appeal, and;
2) a $206.00 filing fee.

Barbara W. Sahm

Barbara W. Sahm
Environmental Review Officer

INITIAL STUDY

94.061E HUNTERS POINT SHIPYARD BASE REUSE PLAN

Introduction

The City and County of San Francisco is working with the U.S. Navy, Engineering Field Activity West (EFA West) to prepare a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) on the base closure and reuse plan for the Hunters Point Naval Shipyard. The reuse plan is being prepared by the San Francisco Planning Department working with the San Francisco Office of Military Base Conversion, the San Francisco Redevelopment Agency and a Citizen's Advisory Committee. The U.S. Navy has published a Notice of Intent to prepare an EIS/EIR. A formal scoping meeting for the EIS will be held on July 12, 1995. This Initial Study provides early notice that the City intends to cooperate with the Navy in preparing the joint EIS/EIR pursuant to CEQA §§ 15222 and 15226, a description of the Reuse Plan and alternatives to be analyzed, and a brief summary of the topics to be addressed in the EIS/EIR.

Project Description

In June, 1994, the Mayor's Citizen's Advisory Committee, working with the San Francisco Office of Military Base Conversion, selected as the preferred alternative reuse plan the "Education and Arts Alternative Plan" for the Hunters Point Naval Shipyard for further study. This alternative was selected from a group of four widely varying preliminary alternatives that emphasized maritime, industrial, arts/education or residential uses. The Education and Arts alternative has been refined by San Francisco Planning Department staff and consultants, working with the San Francisco Redevelopment Agency. "The Hunters Point Draft Land Use Plan" was published in March, 1995 and was endorsed by the Planning and Redevelopment Agency Commissions, the Board of Supervisors and the Mayor's Citizens Advisory Committee. The Environmental Impact Statement/Environmental Impact Report to be prepared on Hunters Point Shipyard Base Closure and Reuse will analyze this preferred alternative along with the "No Action" alternative and a reduced development alternative.

The Education and Arts Plan emphasizes the existing artist community at the Shipyard in defining the Shipyard's new image. At the same time, the location of new educational uses such as job training centers, public schools and conference facilities, serving all ages would help give the Education and Arts Alternative its identity. The existing artist community would be expanded. The artists, their studios, live-work spaces, galleries and exhibition spaces would form a mixed use neighborhood of commercial and industrial scale buildings and could include related warehousing and retail uses. Growth industry jobs, intended to enhance the Shipyard's role in the Bay Area's economic recovery, are expected to be encouraged in research/development and industrial areas included in the proposed plan.

There are a number of buildings of architectural and historical interest on the base. These buildings could be rehabilitated to become the focus of a special cultural and historic zone with space for museums dedicated to showcasing the history of the Shipyard and the contributions of

African-Americans, Native-Americans, and other local communities. Other maritime facilities on the base would remain in maritime use.

Residential use is proposed for the hilltop adjacent to an existing Bayview Hunters Point residential area. Over 100 acres of open space is proposed throughout the Plan area, in varying locations. The remainder fo the Shipyard (about 100 acres) is left undesignated, for future development.

The EIS/EIR will analyze likely development at the Shipyard in two phases, based on analyses of market demand and absorption of the various proposed uses: development and related employment estimated to be likely by the year 2010, and a "buildout" of the Reuse Plan in the year 2025. The amount of space and employment to be analyzed in both phases is based on market analyses rather than on developeble area. The "buildout" phase retains considerable amounts of land for future development; assessment of the types and amounts of use likely beyond the year 2025 would be too speculative to be informative.

Estimates of space and employment to be analyzed in the analysis years for the Reuse Plan are shown in the table on the following page. A map showing general locations of the proposed land uses at the Shipyard follows on page 4.

A reduced development alternative will be analyzed in the EIS/EIR that includes fewer square feet of all uses proposed in the Reuse Plan, with proportionally less employment, and that includes 600 dwelling units instead of the 1300 in the Reuse Plan alternative. Estimates of space and employment for this reduced development alternatives are also included in the enclosed table.

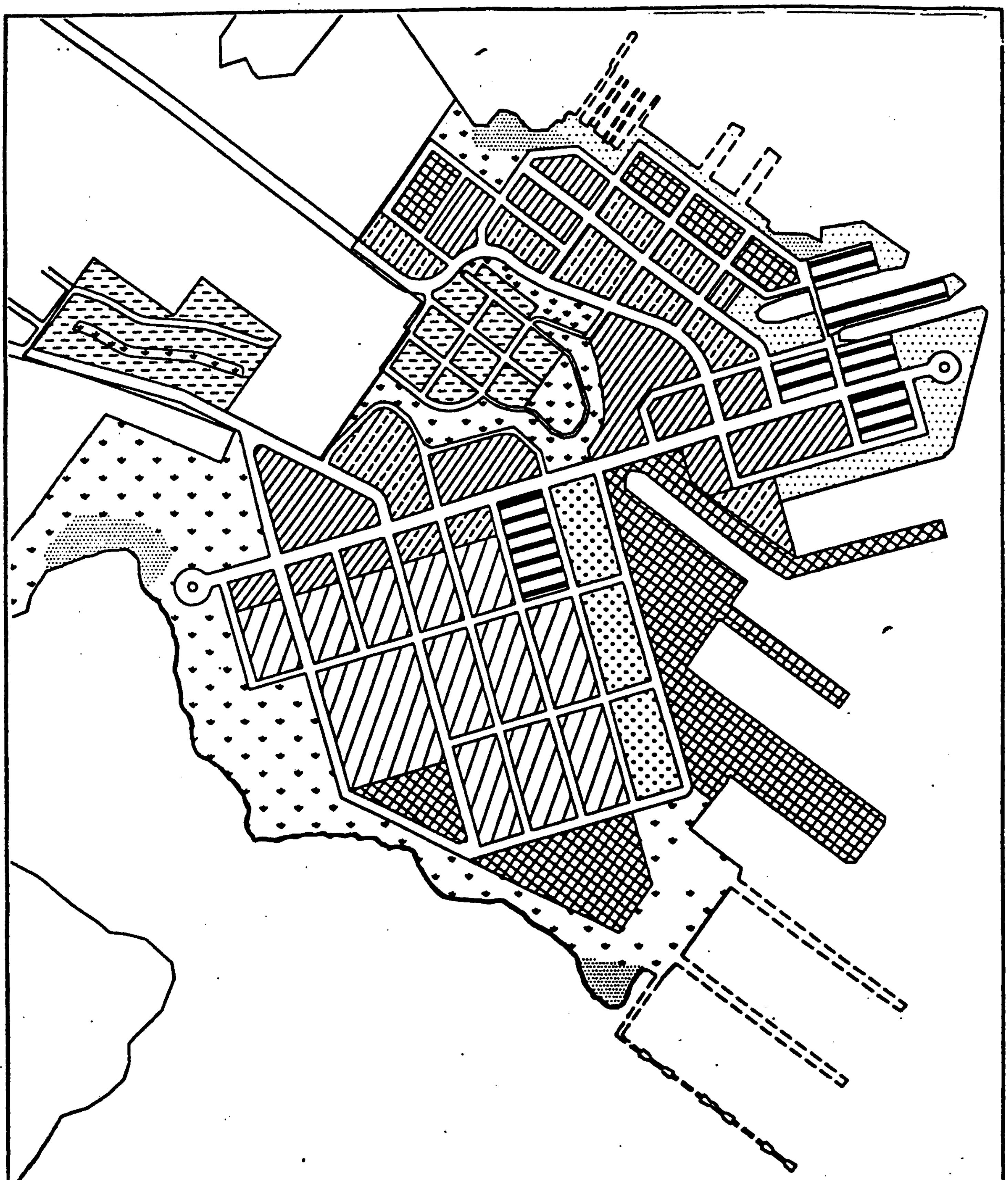
The "No Action" alternative would have the former Naval Shipyard property remain in continuing caretaker status under the federal government. No new uses will be analyzed for this alternative.

Summary of Potential Environmental Effects

The Hunters Point Shipyard, in use by the U.S. Navy until about 1974 and then used for ship repair by Triple A until the mid-1980's, is now primarily unused except for a few buildings used by the Navy for warehousing and temporary leases of a few buildings by the Navy to artists and some small businesses. The Navy recently contracted with Astoria Metals Corporation to use Drydock 4 (the largest on the West Coast) for ship breaking activities.

The site is a peninsula extending into San Francisco Bay from the eastern portion of the hill that was the original Hunters Point; about 1/2 to 2/3 of the land area is comprised of filled land. The Naval Shipyard is about 500 acres, with about 150 buildings, 6 dry docks and about 16,000 linear feet of berthing area. Several years of investigation have shown that there is hazardous waste in much of the soil and groundwater. The area was declared a "superfund" site in 1986-87 and the Navy has been carrying out remedial investigation and cleanup operations since the late 1980's.

Detailed studies of the existing conditions on the site have been prepared by the Department of City Planning in its "Existing Conditions Report" and by Navy staff at EFA West in the "Baseline Environmental Report". Copies of both are available for review at the Department of City



Hunters Point Shipyard

DRAFT LAND USE PLAN

NORTH

Education/Cultural/ Historical

Industrial

Research &Development

Residential

Mixed Use
Retail/Gallery
Artist Studio
Artist Live/Work
Warehouse
Hotel/Conference

Future Development

Open Space

Passive

Active

Hard Surface

Possible Wetland Restoration

HUNTERS POINT SHIPYARD

Office of Military Base Conversion

Planning offices. These reports will be used to prepare the Affected Environment section of the EIS/EIR.

The Hunters Point Shipyard and some nearby areas have been designated as a Redevelopment Survey Area by the San Francisco Redevelopment Agency Commission and the San Francisco Board of Supervisors. The project to be analyzed in the EIS/EIR is a Reuse Plan covering the Hunters Point Shipyard portion of this survey area; the EIS/EIR is expected to provide background information for adoption of amendments to the San Francisco Master Plan and a Redevelopment Plan; therefore the document will be prepared at a plan level of detail.

Based on the Initial Study Checklist (attached) and on consultation with EFA West staff, potential effects on the following environmental features and issues will be considered in the EIS/EIR:

land use/zoning
socioeconomic issues, including population and growth inducement
water quality and hydrology
visual quality and urban design
transportation
noise
air quality and climate
biological resources
geology, including issues related to seismic activity
hazards, including soil and groundwater contamination and ongoing cleanup activities
archaeological and historic resources
public services and utilities
energy

Construction related or temporary effects also will be generally described when possible

Note that because the document to be produced will be a joint EIS/EIR prepared pursuant to NEPA as well as CEQA, socioeconomic issues will be included despite the fact that this topic is not necessary to an EIR prepared only under the requirements of CEQA. The EIS/EIR will include CEQA-required growth inducing analyses as well as separately-identified mitigation measures where appropriate.

HPtI.S. 12/13/94

ENVIRONMENTAL EVALUATION CHECKLIST
(Initial Study)

File No: 94.061E Title: Hunters Point Shipyard Reuse Plan

Street Address: N/A Assessor's Block/Lot: 4591 A

Initial Study Prepared by: Barbara W. Sahm

A. COMPATIBILITY WITH EXISTING ZONING AND PLANS	Not Applicable	To Be Discussed in EIS/EIR
1) Discuss any variances, special authorizations, or changes proposed to the City Planning Code or Zoning Map, if applicable.	___	X
*2) Discuss any conflicts with any adopted environmental plans and goals of the City or Region, if applicable.	___	X

B. ENVIRONMENTAL EFFECTS - Could the project:

	YES	NO	To Be DISCUSSED in EIS/EIR
1) Land Use			
*(a) Disrupt or divide the physical arrangement of an established community?	___	X	___
*(b) Have any substantial impact upon the existing character of the vicinity?	X	___	X
2) Visual Quality			
*(a) Have a substantial, demonstrable negative aesthetic effect?	___	X	X
(b) Substantially degrade or obstruct any scenic view or vista now observed from public areas?	___	X	X
(c) Generate obtrusive light or glare substantially impacting other properties?	___	X	X
3) Population			
*(a) Induce substantial growth or concentration of population?	X	___	X
*(b) Displace a large number of people (involving either housing or employment)?	___	X	___
(c) Create a substantial demand for additional housing in San Francisco, or substantially reduce the housing supply?	X	___	X
4) Transportation/Circulation			
*(a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	X	___	X
(b) Interfere with existing transportation systems, causing substantial alterations to circulation patterns or major traffic hazards?	X	___	X

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

E. MANDATORY FINDINGS OF SIGNIFICANCE	YES	NO	TO BE DISCUSSED IN EIS/EIR
*1) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history?		X	X
*2) Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?		X	X
*3) Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probable future projects.)	X		X
*4) Would the project cause substantial adverse effects on human beings, either directly or indirectly?		X	X

F. ON THE BASIS OF THIS INITIAL STUDY

___ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.

___ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures, numbers ______, in the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.

X I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Barbara W. Sahm

BARBARA W. SAHM
Environmental Review Officer
for

LUCIAN R. BLAZEJ
Director of Planning

DATE: June 28, 1995

BWS:OER/23/4-13-92

FEDERAL
Advisory Council on Historic Preservation

Federal Aviation Administration

National Oceanic & Atmospheric Administration
ATTN: Denise Klimas

U.S. Army Corps of Engineers
Sacramento District

U.S. Coast Guard
Marine Safety Office, San Francisco Bay

U.S. Department of the Interior
Office of Environmental Policy and Compliance

U.S. Department of the Interior
Office of Environmental Policy and Compliance

U.S. Department of the Interior
Bureau of Indian Affairs

U.S. EPA
Office of Federal Activities

U.S. EPA Region IX
Office of Regional Counsel

U.S. EPA Region IX
Office of Federal Activities
Environmental Review Section

U.S. Fish & Wildlife Service
Division of Ecological Services

U.S. Senators
The Honorable Barbara Boxer

The Honorable Dianne Feinstein

U.S. Representatives
The Honorable Tom Lantos

The Honorable Nancy Pelosi

Navy
Commander, Naval Base (COMNAVBASE) (Code 03)
San Francisco Naval Station, Treasure Island

	YES	NO	To Be DISCUSSED in EIS/EIR
(c) Cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity?	X		X
(d) Cause a substantial increase in parking demand which cannot be accommodated by existing parking facilities?		X	X
5) Noise			
*(a) Increase substantially the ambient noise levels for adjoining areas?	X		X
(b) Violate Title 24 Noise Insulation Standards, if applicable?		X	
(c) Be substantially impacted by existing noise levels?		X	X
6) Air Quality/Climate			
*(a) Violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation?	X		X
*(b) Expose sensitive receptors to substantial pollutant concentrations?	X		X
(c) Permeate its vicinity with objectionable odors?		X	X
(d) Alter wind, moisture or temperature (including sun shading effects) so as to substantially affect public areas, or change the climate either in the community or region?		X	X
7) Utilities/Public Services			
*(a) Breach published national, state or local standards relating to solid waste or litter control?		X	X
*(b) Extend a sewer trunk line with capacity to serve new development?	X		X
(c) Substantially increase demand for schools, recreation or other public facilities?	X		X
(d) Require major expansion of power, water, or communications facilities?		X	X
8) Biology			
*(a) Substantially affect a rare or endangered species of animal or plant or the habitat of the species?		X	X
*(b) Substantially diminish habitat for fish, wildlife or plants, or interfere substantially with the movement of any resident or migratory fish or wildlife species?		X	X
(c) Require removal of substantial numbers of mature, scenic trees?		X	
9) Geology/Topography			
*(a) Expose people or structures to major geologic hazards (slides, subsidence, erosion and liquefaction).	X		X
(b) Change substantially the topography or any unique geologic or physical features of the site?		X	X

	YES	NO	TO BE DISCUSSED IN EIS/EIR
10) Water			
*(a) Substantially degrade water quality, or contaminate a public water supply?		X	X
*(b) Substantially degrade or deplete ground water resources, or interfere substantially with ground water recharge?		X	X
*(c) Cause substantial flooding, erosion or siltation?		X	X
11) Energy/Natural Resources			
*(a) Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	X		X
(b) Have a substantial effect on the potential use, extraction, or depletion of a natural resource?		X	X
12) Hazards			
*(a) Create a potential public health hazard or involve the use, production or disposal of materials which pose a hazard to people or animal or plant populations in the area affected?	X		X
*(b) Interfere with emergency response plans or emergency evacuation plans?	X		X
(c) Create a potentially substantial fire hazard?		X	
13) Cultural			
*(a) Disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as a part of a scientific study?		X	X
(b) Conflict with established recreational, educational, religious or scientific uses of the area?		X	X
(c) Conflict with the preservation of buildings subject to the provisions of Article 10 or Article 11 of the City Planning Code?	X		X

C. OTHER

	YES	NO	TO BE DISCUSSED IN EIS/EIR
Require approval and/or permits from City Departments other than Department of City Planning or Bureau of Building Inspection, or from Regional, State or Federal Agencies?	X		

D. MITIGATION MEASURES

	YES	NO	N/A	TO BE DISCUSSED IN EIS/EIR
1) Could the project have significant effects if mitigation measures are not included in the project?	X			X
2) Are all mitigation measures necessary to eliminate significant effects included in the project?	unknown at this time			X

Commander-in-Chief Pacific Fleet (CINPACFLT) (Code N44)
U.S. Pacific Fleet

STATE
California Air Resources Board

California Coastal Commission, Land Use

California Department of Fish and Game
Region 3, Coastal Region

California Department of Parks and Recreation

California Department of Transportation
Office of Joe Browne, District Director

California Department of Water Resources

California EPA
Department of Toxic Substances Control
Planning Section

California EPA
Department of Toxic Substances

California State Office of Historic Preservation

California Office of Planning and Research
State Clearing House

California State Lands Commission

State Senate
The Honorable Quentin Kopp

The Honorable Milton Marks

State Assembly
The Honorable Willie Brown

The Honorable John Burton

BAY AREA/REGION
Association of Bay Area Governments
Director of Environmental Services

Bay Area Air Quality Management District

Bay Conservation & Development Commission

Metropolitan Transportation Commission

Pacific Gas & Electric Company

Water Quality Control Board
San Francisco Bay Region

CITY AND COUNTY OF SAN FRANCISCO
Hetch Hetchy Water & Power

MUNI Service Planning

Planning Department, City and County of San Francisco

Port of San Francisco

San Francisco Board of Supervisors
Select Committee on Base Closures

San Francisco Chief Administrative Officer

San Francisco City Attorney's Office

San Francisco Department of Public Health
Bureau of Toxics

San Francisco Fire Department

San Francisco Housing Authority

San Francisco Mayor's Office

San Francisco Police Department

San Francisco Public Works Department
Bureau of Environmental Regulation and Management

San Francisco Recreation and Parks Department
McLaren Lodge

San Francisco Redevelopment Agency

San Francisco Solid Waste Management

San Francisco Water Department

ENVIRONMENTAL ORGANIZATIONS
Audubon Society
Golden Gate Chapter

Bay Keeper Society

California Environmental Trust

California Native Plant Society
Yerba Buena Chapter

Friends of Candlestick Point

Natural Resources Defense Council

Restoring the Bay Campaign

San Francisco for Reasonable Growth

Sierra Club
San Francisco Bay Chapter

Sierra Club

MEDIA
Asian Week

Bay City News Service

Chinese News Service

Chinese Times

El Bohemio News

International Daily News

Korea Central Daily News

New Bayview Newspaper, Mary Ratcliff

Nichi Bei Times

Philippine Examiner Today

Potrero View Newspaper

San Francisco Bay Guardian

San Francisco Bay Times

San Francisco Chronicle, Press Office

San Francisco Examiner

San Francisco Independent

San Francisco Weekly

The New Fillmore Newspaper

The Sun Reporter

The Tenderloin Times

NEIGHBORHOOD AND COMMUNITY ORGANIZATIONS

Bayview Coordinating Council

Bayview Hill Neighborhood Association

Bayview Hunters Point Democratic Club

Bayview Merchants Association

Bayview Welfare Support Services

Bayview-Hunters Point Crime Prevention Council

Bayview-Hunters Point Ecumenical Council

Bayview-Hunters Point Foundation Administration Offices

Businesses of Hunters Point Shipyard

Coalition on Homelessness

Hunters Point Boys and Girls Club

Hunters Point Community Youth Park

Hunters Point Homeowners Association

Hunters Point Recreation Center

Little Hollywood Improvement Association

Mariners Village Homeowners Association

McKinnon Avenue Community Club

Moran Heights Homeowners Association

New Bayview Committee

New Hp Homeowners Assoc.

Samoan Mo Samoa

San Francisco Chamber of Commerce

San Francisco Council of District Merchants

San Francisco Heritage

San Francisco Housing & Tenants Council

San Francisco League of Neighborhoods

San Francisco Organizing Project

San Francisco Planning and Urban Research Association

San Francisco Tomorrow

SMWM

South Bayshore CDC

Southeast Community Facility Commission

Southeast Economic Development Group

Youth Community Developers

MAYOR'S CITIZENS ADVISORY COMMITTEE
Jesse Banks

Tony Dominski
West Edge Design

Neil Gendel
Consumer Action

Linda Hope
(HPS Artists Association)

Leslie Katz, Attorney at Law
Mayor of San Francisco, Appointed Public
Representative

Edward Mackin

Carolyn McDaniels

Leroy Morishita
SFSU Admin. Plan

Cynthia Choy Ong

Willa Sims

Clarence Stern

Leon Thibeaux, Jr.

Alma Robinson
Cal. Lawyers for the Arts

Karen Pierce

Francis J. O'Neill

Diana Oertel

Willie Bell McDowell

George Mix, Jr.
San Francisco Urban League

Scott Madison

Yvette McCoy
Progress Seven

Leroy King
c/o ILWU

Glen Lezama
Union Bank

Joyce Jones

Shirley Jones, Chair
Caheed Child Care Center

Heidi Hardin

Tony Gray
Precision Transport

Rochele Frazier
S.F. Senior Escort Program

Ethel Garlington
Southeast Community Facility

Bernice Brown
Southeast Community College

Saul Bloom
ARC Ecology / Arms Control Research Center

Manuma Tui

Alfred Williams
CAC Consultant

Lori Yamauchi

NATIVE AMERICANS
Linda G. Yamane
Ohlone Group

Rosemary Cambra, Chairperson
Muwekma Indian Tribe

Andrew Galvan
Ohlone Group

Irene Zwierlein, Chairperson
Amah Tribal Band

Jenny Mousseaux (Mcleod)

Alex Ramirez

Ann Marie Sayer, Chairperson
Indian Canyon Mutsun Band of Costanoan

Jakki Kehl
Ohlone Group

Kenneth Marquis
Ohlone Group

Patrick Orozco
Ohlone Group

Ella Mae Rodriguez
Ohlone Group

RAB Members
Nicholas S. Agbabiaka
Bayview Hunters Point Homeowners and Residential
Community Development Council

Carolyn Bailey

Sy-Allen Browning
South East Economic Group (SEED)

CDR Al Elkins
Bay Area Base Transition Coordinator

Michael Harris

Karen Huggins

Wedrell James

Alydda Mangelsdorf
U.S. EPA (H-9-2)
Federal Facilities Cleanup Office

Michael Martin
CERCLA/NRDA Unit
California Department of Fish & Game

Michael McClelland (Code 62.3)
Engineering Field Activity West

Ilean McCoy

Nancy Goodson

U.S. Department of the Interior

Charlie Walker
African American Truckers Association

Caroline Washington

Gwenda White

David Umble

Silk Gaudain

Interested Individuals
Douglas Kern
Kern Mediation Group

Sally Ann Law
RAND
P.O. Box 2138
Santa Monica, CA 90407-2138

PUBLIC NOTICE

The United States Navy, in conjunction with the City and County of San Francisco, announces their intent to prepare a Joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to evaluate significant environmental impact of disposal and potential reuse of the Hunters Point Naval Shipyard. This action is being conducted in accordance with the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510) as implemented by the 1993 base closure process.

The Hunters Point Shipyard Reuse Plan, developed by the City and County of San Francisco, will be the proposed action evaluated in the EIS/EIR. The EIS/EIR will address the potential significant impacts to the environment that may result from the reuse of Hunter Point.

A PUBLIC SCOPING HEARING
will be held
Wednesday, July 12, 1995 at 5:00 p.m.
at the following address:

Southeast Community Facility
1800 Oakdale Avenue
San Francisco, CA

The purpose of this hearing is to receive written and verbal comments regarding significant environmental impacts of the disposal and potential reuse of Hunters Point Naval Shipyard. **A brief presentation of the EIS/EIR process and the Reuse Plan and Alternatives will precede the** request for public comment. Navy and City of San Francisco representatives will be available at this hearing to receive comments from the public regarding issues of concern to the public.

Agencies and the public are also invited and encouraged to provide written comments in addition to, or in lieu of, oral comments at the public hearing. Written statements must be received at the address below no later than July 30, 1995 to be considered in this scoping process:

ENGINEERING FIELD ACTIVITY, WEST
NAVAL FACILITIES ENGINEERING COMMAND
900 COMMODORE DRIVE
SAN BRUNO, CA 94066-5006
ATTN: MS. MARY DOYLE,
CODE 185
Phone (415)244-3024
Fax (415) 244-3737.

Public Scoping Hearing
of the
Environmental Impact Statement/
Environmental Impact Report
on the Disposal and Reuse of
Naval Shipyard Hunters Point
San Francisco, CA

Attendance

Name	Affiliation
Eve Bach	Arc Ecology
Tad & Laura Baidenthal	individual
Esther Blanchard	President-R.O.S.E.S.
Saul Bloom	Arc Ecology
Amy Brownell	SF Dept. of Public Health
Calvin Davis	Homeowners Association
Bisun Duit	DSS Group
Al Elkins	DOD BTC
Manual J. Ford, Jr	Terra Environmental
Ruth Goldstein	individual
David Haasie	Base Transition Office
David Henderson	ABU
Alan Hopkins	Golden Gate Audobon
Tanya Joyce	individual
Doug Kern	Kern Meditation Group
Harvey McDowell	individual
Willie B. McDowell	Citizen Advisory Committee (CAC) Shipyard
Deb Moore	individual
Tatiana Roodkowsky	PRC EMI
Cyrus Shabahan	Cal/EPA Dept. of Toxics and Substance Control (DTSC)
Kirstan Williams	individual
Al Williams	Hunters Point CAC
Jane W. Wrench	individual
Marvin Yee	Rec/Park

Compilation of Wildlife Observations At Hunters Point

by Resident Artists 1995

CC = Carolyn Crampton
HM = Heather MacDougall
JL = Jeffrey Long
JR = Joan Rhine
RG = Ruth Goldstien
TA = Tor Archer
TJ = Tanya Joyce
unk = unknown

Artist	Type	Common Name
JL	bird	American coot
unk	bird	American robin
JL	bird	American robin (nesting)
JL	bird	American widgeon
JR	bird	Anna's hummingbird
JR	bird	black-tailed hare
JR	bird	barn owl
RG	bird	barn owl
TA	bird	barn owl
JL	bird	barn owl (nesting)
JL	bird	barn swallow (nesting)
JL	bird	black-crowned night heron
JR	bird	black-crowned night heron
RG	bird	black-crowned night heron
TA	bird	black-crowned night heron
JL	bird	brown pelican
RG	bird	brown pelican
unk	bird	brown pelican
JL	bird	bushtit
JR	bird	bushtit
JL	bird	California gull
RG	bird	California quail
unk	bird	California quail
TA	bird	California towhee
JL	bird	California towhee (nesting)
RG	bird	Canada goose
unk	bird	Canada goose
JL	bird	canvasback
JL	bird	Caspian tern
JL	bird	cedar waxwing
JL	bird	common crow
JL	bird	double-crested cormorant
JL	bird	European starling

Artist	Type	Common Name
RG	bird	European starling
TA	bird	European starling
RG	bird	ferruginous hawk
JL	bird	golden eagle
RG	bird	golden eagle
JL	bird	great blue heron
RG	bird	great blue heron
TA	bird	great blue heron
unk	bird	great blue heron
JL	bird	greater scaup
JL	bird	hooded oriole (nesting)
JR	bird	house finch
TA	bird	house finch
unk	bird	house finch
JL	bird	house finch (nesting)
RG	bird	house finch (nesting)
CC	bird	kestrel
RG	bird	kestrel
TA	bird	kestrel
JL	bird	kestrel (nesting)
TA	bird	killdeer
JL	bird	killdeer (nesting)
JL	bird	least tern
JL	bird	lesser scaup
JL	bird	long-billed dowitcher
TA	bird	meadowlark
TA	bird	mockingbird
RG	bird	mourning dove
TA	bird	mourning dove
JL	bird	mourning dove (nesting)
JL	bird	northern flicker
JR	bird	northern flicker
CC	bird	northern mockingbird
JR	bird	northern mockingbird
unk	bird	northern mockingbird
JL	bird	northern mockingbird (nesting)
unk	bird	peregrine falcon (pair)
RG	bird	pheasant
JL	bird	raven
RG	bird	raven

Artist	Type	Common Name
unk	bird	raven
JL	bird	red-tailed hawk
JR	bird	red-tailed hawk
RG	bird	red-tailed hawk
TA	bird	red-tailed hawk
unk	bird	red-tailed hawk
RG	bird	red-winged blackbirds
JR	bird	red-winged blackbird
JL	bird	red-winged blackbird (nesting)
JL	bird	ring-billed gull
JL	bird	ring-necked pheasant
JL	bird	ruddy duck
JL	bird	scrub jay
RG	bird	scrub jay
RG	bird	sharp-shinned hawk
JL	bird	snowy egret
JL	bird	song sparrow
RG	bird	Stellar's jay
JL	bird	surf scoter
RG	bird	Swainson's hawk
TA	bird	turkey vulture (occasionally)
JL	bird	western gull
JL	bird	western screech owl
JL	bird	white-crowned sparrow
JL	bird	willit
unk	invert	monarch
JL	mammal	black-tailed hare
TA	mammal	black-tailed hare
RG	mammal	black-tailed hare
JL	mammal	Botta's pocket gopher
JL	mammal	California ground squirrel
CC	mammal	domestic dog
CC	mammal	feral cat
unk	mammal	feral cat
JL	mammal	grey fox
JR	mammal	harbor seal
JL	mammal	hump-backed whale
JL	mammal	raccoon
JL	mammal	sea lion
RG	mammal	sea lion (wintering)

Artist	Type	Common Name
TJ	plant	bird'sfoot trefoil
CC	plant	coyote brush

General Observations

JL	bird	blackbird
RG	bird	eagle like
RG	bird	egret
unk	bird	falcon
unk	bird	gulls
RG	bird	hawk
unk	bird	hawk
JL	bird	hummingbird
RG	bird	hummingbird
JL	bird	nuthatch
HM	bird	owl
RG	bird	owl
unk	bird	owl
JL	bird	sandpiper
RG	bird	shorebirds/gulls/terns
RG	bird	small yellow-marked song bird
TA	bird	sparrow
unk	invert	butterflies
unk	invert	dragonfly
JR	mammal	fox
RG	mammal	fox
TA	mammal	fox
unk	mammal	fox
RG	reptile	lizard
TA	reptile	lizard
unk	reptile	lizard
TA	reptile	two dead snakes

MANUEL J. FORD JR.
Chief Environmental Engineer

TERRA ENVIRONMENTAL

Enviromental Repair

Ms. Mary Dole
Environmental Planning Branch, Code 185
Engineering Field Activity, West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno , CA 94066-5006
415 244 3024

7/27/95

RE: EIS/EIR

SUBJECT: Air Quality/Naval Shipyard Hunter Point

Dear Ms. Dole,

The Public Scoping Meeting of July 12,1995, was very enlightening and revealed the need for adequate local air quality control, especially in view of the present and upcoming reuse alternatives for the Naval Shipyard Hunters Point.

I began Terra Environmental to handle the environmental issue of Air Quality and how to improve air quality and/or maintain environmental compliance with the Clean Air Act of 1990 and the PM 10 indicator.

The inclusion of an Atmospheric Air Recycling Facility as a necessary part of the Final Reuse Plan, to ensure that good air quality in the area is maintained, would be an A+ in environmental planning.

An Atmospheric Air Recycling Facility is a facility that as a basic function filters and recycles large quanitities of outside air. These facilities are equipt with all-weather vacuum units similar to those used in the mechanical street sweepers, only directed skyward, and are equipt with a combination of 0.6 to 0.1 micron reuseable air filters, for the removal of airborne particles and particulate matter(PM) and an air flow-through for recycling the filtered clean air back into the atmosphere for breathing purposes.

The estimated size of the area needed for such a facility is in the range of 1,500 to 2,500 sq. ft. enough to handle one to three air recycling units,ie., 200,000 to 600,000 CFM(cubic feet per minute).

During the said Public Scoping Meeting, Mr. Paul Lord, Senior Planner for the City of San Francisco Planning Dept. and myself discussed the subject of the Atmospheric Air Recycling Facility and it's place in the proposed Reuse Plan.

We established that the facility is a viable concept and that placement of such a facility would best serve it's purpose placed in the vicinity of Drydock 4. This is after measurements of wind direction and speed, noise levels, and cost has been determined.

I am looking forward to working with you on this project please contact me at your earliest convenience.

Sincerely,

Manuel J. Ford Jr.
Chief Environmental Engineer
Terra Environmental

P.S. I have included my most recent research report, June 1995.

	TERRA ENVIRONMETAL
Address:	457 90th St. #2
	Daly City, CA 94015
Tel:	415 991 2865

TERRA ENVIRONMENTAL

Enviromental Repair

TERRA ENVIRONMENTAL RESEARCH REPORT JUNE 1995 #1

I founded Terra Environmental to come face to face with our global environmental situation, of which global warming is just the tip of the iceberg, and to provide needed answers, services and products, to help reverse a presently terminal situation.

In searching for a cure for Earth's environmental problem, one first had to search for the cause, the real cause, that could be reversed with the correct human intervention.

As Chief Researcher & Engineer of Terra Environmental my most recent findings are:

1. That a new spark plug displays magnetic suspectibilities.
2. That a recently used spark plug is magnetized due to the spark plug's interaction in the electrical system of a motor vehicle. (1.& 2. tested using a compass and a very small sewing needle)
3. That global warming, is the result of reverse electromotive force(CEMF).

1. To better comprehend the true effects of an internal combustion engine and the automotive electrical system on the Earth's magnetic field, our environment, an analogy of the involved processes or subprocesses is in order. My findings are based on and in inconjunction with the molecular theory of magnetism, which is based on the theory that all atoms and molecules have magnetic properties.

2. The modern automobile with it's complex electrical system contains current carrying conductors which produce magnetic fields. The electromechanical and electromagnetic parts as well as the body(if metal) and the chassis, produce several magnetic fields of various strength and size. This is due to the fact that electric current is a source of magnetism.

3. The automotive electrical system contains two main circuits, the insulated circuit and the ground circuit. At this time we will look at the ground circuit and it's part in electromagnetism.

4. The ground circuit contains the largest amount of electrical conductor material,ie. the metal parts such as the chassis and engine. As part of the ground circuit the modern engine is designed with the necessary fittings and connectors for the placement of the starter motor, generator/alternator, distributor, and spark plugs, who's functions are dependant on the ground circuit via the engine.

5. The automobile's engine being part of the ground circuit qualifies as a current carrying conductor, surrounded by a magnetic field of it's own configuration. The other automotive parts that are sources of electromagnetism and produce strong magnetic fields, located on or near the engine itself are: the starter motor, generator/alternator, and most important, the ignition coil.

6. Designed to operate electromagnetically, the ignition coil, through mutual induction, increases battery voltage to many thousands of volts. The high voltage electrical current from the ignition coil is sent through a high voltage cable(spark plug cables) to the spark plugs.

7. Made of paramagnetic material, the spark plug, when exposed to the electromagnetic properties of the ground circuit and ignition coil, over a short period of time becomes an electro-semi-permanent magnet with the electrodes performing the function of positive and negative poles(electropositive and electronegative), an example of polarization and magnetism. The spark plug passes electrical current through and ignites, to produce a chemical change , a chemical mixture of voltile liquid hydrocarbons and compressed air, the process of internal combustion.

8. The process of internal combustion using gasoline, the catalysis being electric current, which also produces heat, contains a distinctive process or subprocess, that of electrolysis. A process that when in use gives rise to a reverse electromotive force.

9. The process of electrolysis as applied in the field of electrometallurgy is based on the application of electric current as a source of heat for the separation of metals from alloys. An example of electrolysis depositon at work in an automobile's electrical system is witnessed by examining the contact points of a distributor.

10. If the contact points on the distributor have developed a crater or depression on one point and a small amount of metal on the other, the cause is an electrolysis action of transfering metal from one contact to the other,ie. electrodeposit.

11. The electric current, which appears as a spark of light as it crosses the distributor's contact points and the spark plug's electrodes, ignites the gasoline (similar to electrolyte). The spark ignites the gasoline with 20,000 to 60,000 volts, an adverage 8 kilowatts of electricity, to cause an explosion within the engine cylinder walls.

12. The heat caused by electrolysis in electrometallurgy, used for separating metal from metal, is a desired effect. The heat caused by electrolysis in internal combustion is considered an undesired effect and in fact leads to the decomposition of the metal parts of the engine,ie. internal engine wear. The temperature of the heat, in the case of internal combustion, can exceed 20000°F within the engine's cylinder walls. That's more than enough heat to release molecules of metal from valves, pistons, spark plugs, and cylinder walls. Burnt valves and pitted pistons provide the perfect visual and physical evidence of internal engine molecular deteriorization or decomposition due to electrolysis action.

13. Another effect of electrolysis in the act of automotive, aviation, and ship, internal combustion, is the process of polarization in the production of carbon monoxide and nitric oxide gases. Polarization is the process by which gases, electromagnetized molecules, produced during electrolysis are deposited on the electrodes, giving rise to a reverse electromotive force.

14. As a subprocess of the automotive internal combustion process, electrolysis combines gasoline(which contains hydrocarbons), air and metal(mostly iron molecules which are paramagnetic, divalent and trivalent) and forms gaseous oxides of carbon (a tetravalent element) and nitrogen,ie. carbon monoxide and nitric oxide. Carbon monoxide gas if breathed can cause death. Nitric oxide in contact with air forms reddish-brown fumes of nitrogen peroxide. The air at one time was 70% percent nitrogen, our gasoline vehicles have turned a percentage of that to nitric oxide and nitrogen peroxide. Nitric oxide is also used in the building of explosives.

15. Most of the polarized molecules, in the form of gases, electronegatively charged with 20,000 volts of electrical energy, escapes through the exhaust pipe(s) into the air. The electromagnetized molecules find their way onto, into or lines up with the lines of force of the Earth's magnetic field(similar to a magnet covered by a piece of paper and iron filings or dust sprinkled on the paper to show the magnet's lines of force)and are electrodeposited on and near the magnetic pole or poles, giving rise to a reverse electromotive force(CEMF),ie. causing an electrical short in the more sensitive levels of the Earth's magnetic field. This is due to the aligned antiparallel of the magnetic moments, the result of a strong negative interaction*, leading to the complete cancellation of the neighboring atomic moments and results in zero net magnetization.

* NOTE: of the hundreds of million combustion engine vehicles on this planet, which includes automobiles, aircraft, and ships, the majority contains negative ground(negative polarity) ground circuits.

In conclusion, we have a situation here, our life support system is failing, we need correct answers and actions and quickly.

M.J.F. Jr.

Manuel J. Ford Jr.
Chief Environmental Engineer

TERRA ENVIRONMENTAL

Enviromental Repair

Global Environmental Emergency Procedures

Terra Environmental recommends the following emergency procedures;

1. To be released on a regular basis in the lower atmosphere, various quantities of filtered compressed air, to dilute concentration of airborne pollutant gases and to increase Earth's breathable air supply.

2. Aerial seeding of ozone in the upper atmosphere over the Antarctic Pole and the Great Lakes Region of the United States.

3. The adoption of Local & International legislation limiting the production of new motor vehicles including airships and water vehicles until electromagnetic safeguards can be installed.

CONFIDENCE IS HIGH

Terra Environmental is in the planning stage of constructing an Earth-based, Earth-friendly Atmospheric Air Recycling Facility. This new facility will filter and mechanically recycle approximately 6000 to 200,000 cubic feet per minute per day of outside air. Electronic filtering was considered but due to the nature of the emergency mechanical particulate matter filtering units were chosen.

Need all the help you can give, please contact me as soon as possible.

Thank You!

Manuel J. Ford Jr.
457 90th St. #2
Daly City, CA 94015
415 991 2865
E-mail contact: thekid@seeker.glide.org

May 29,1995

City and County of San Francisco **Recreation and Park Departmen**

July 19, 1995

Ms. Mary Doyle (Code 185)
Engineering Field Activity West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, CA 94066-5006

Dear Ms. Doyle:

The San Francisco Recreation and Park Department appreciates the opportunity to express concerns regarding the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the disposal and reuse of the former Hunters Point Naval Shipyard. The following concerns are offerred:

1. During the development of a reuse plan under the guidance of the Redevelopment Agency and Planning Department, the San Francisco Recreation and Park Department participated in identifying recreation and open space opportunities as they relate to existing City-wide facilities. However, these recommendations were offered with no anticipation of the residential (local and city-wide) and worker population to be served. A study would be appropriate to evaluate the project's adherence to the National Park and Recreation Association standards for neighborhood- and district-serving open space.

2. Ownership of the proposed recreational and open spaces should be addressed. Areas which are intended to be owned by the City and placed under the jurisdiction of the Recreation and Park Department should receive adequate funding for development, staffing, and maintenance. An economic analysis should be included as part of the proposed EIS/EIR.

3. Compliance of the proposed plan should be evaluated in its conformance to public plans and policies, particularly the Recreation and Open Space Element of the San Francisco Master Plan.

The Recreation and Park Department looks forward to reviewing the EIS/EIR and in a successful reuse of the former Hunters Point Naval Shipyard. If you have any questions, please contact Deborah Learner at (415) 666-7087 or Marvin Yee at (415) 666-7130.

Sincerely,

Marvin Yee
Project Manager

hunter12.doc

McLaren Lodge, Golden Gate Park
Fell and Stanyan Streets
FAX: (415) 668-3330
Inform... (415) 666-7200
15) 666-7043
San Francisco 941

STATE OF CALIFORNIA PETE WILSON, Governor
STATE LANDS COMMISSION
1807 13TH STREET
SACRAMENTO, CALIFORNIA 95814
(TDD/TT) 1-800-735-2929
(916) 322-0595

REC'D.

JAN 13 1994

Dept. of City Planning
Plans & Programs
OER

January 11, 1995

File Ref.: W 25114

Barbara W. Sahm
Environmental Review Officer
Department of City Planning
1660 Mission Street
San Francisco, CA 94103-2414

RE: Hunters Point; Notice of Preparation of EIS

Dear Ms. Sahm:

This is written to respond to the Notice of Preparation (NOP) of an Environmental Impact Statement (EIS) for the base closure and reuse of Hunters Point Naval Shipyard.

By way of general background, upon admission to the Union in 1850, California acquired nearly four million acres of sovereign land underlying the State's navigable waterways and tide and submerged lands. These sovereign lands include, but are not limited to, the beds of more than 120 navigable rivers and sloughs, nearly 40 navigable lakes, and the tide and submerged lands in the bays of the State and within a three mile wide band along the coast and surrounding the offshore islands. These lands are managed by the State Lands Commission (SLC) unless there has been a grant of these interests by the Legislature to a local government for its day-to-day administration.

A substantial part of Hunters Point Naval Shipyard (Hunters Point) was historically tide and submerged lands of San Francisco Bay which has since been filled. This type of land, together with the unfilled tide and submerged lands which remain, are commonly referred to as public trust land or sovereign land.

Pursuant to state legislative acts, portions of the tide and submerged lands at Hunters Point were sold by the State into private ownership pursuant to a plan established by Board of Tideland Commissioners, generally referred to as BTLC lots. To the extent that the BTLC lots had been filled and removed from tidal action as of 1980, these lands were held to be free of public trust title in the case of <u>City of Berkeley v. Superior Court of Alameda County</u> (1980) 26 Cal. 3d 515. Any BTLC lots which remained subject to tidal action as of that date are subject to a public trust easement. Intermingled within the sold BTLC lots were reserved streets which are subject to the trust in fee.

Other tide and submerged lands at Hunters Point were included within sales by the State in the last century referred to as tidelands patents. The tidelands patent program was separate from the activities of the Board of Tideland Commissioners. Lands sold by tidelands patent remain subject to a public trust easement whether filled or not. (People v. California Fish Company (1913) 166 Cal. 576).

Staff of the SLC have met with staff of the San Francisco Redevelopment Agency, City Attorney, and Planning Department to discuss proposed land use plans for Hunters Point and the public trust character of parts of the property. These discussions have resulted in the conclusion that the public trust is best served by consolidating public trust lands which are in fee or easement into useable properties on or near the water which, given the land title history of the area, are not now subject to the trust.

The "Education and Arts Alternative Plan" for Hunters Point appears to promote this consolidation of trust lands in that significant areas along the water and inland of it are set aside for public trust purposes such as maritime uses, museums depicting the history of the Shipyard, and parks and open space.

Ultimately, any settlement of land title interests will require an exchange of land which will result in freeing more inland properties from the trust and placing the trust on other lands on or near the waterfront. An exchange of land must be supported by a finding that the land brought into the trust has an economic value equal to or greater than those freed from the trust.

Separate from the decision that the public trust will be served by a consolidation of interests, any exchange of lands must also be supported by a finding that the economic value of the lands brought into the trust are equal to or greater than those freed from the trust. The purpose of this is to assure that trust lands are kept whole both in utility and in value. We have informed the San Francisco Office of Base Conversion that, if the value of the lands on or near the water is not sufficient to offset the value of more inland trust property, it may be necessary to bring additional lands adjacent to the maritime area (now tentatively identified for Industrial, Business Park, or Research and Development) into the trust. Any exchange lands which fall within these use areas could be leased on an interim basis by the City for non-trust uses with subsequent review for trust uses after applicable leases have expired.

We have reviewed your NOP with the attached Initial Study keeping in mind the decisions which this Commission may be required to make in the future for the settlement of land title questions and possible leasing at Hunters Point. We would appreciate treatment of several subject areas in the EIS:

Barbara W. Sahm
Page 3
January 11, 1995

1. An [redacted]time-related [redacted] tra[redacted] may [redacted]ave. [redacted] Point for [redacted] the possible impacts of [redacted]

2. An [redacted]plan in [redacted] existing con[redacted]up [redacted]ties.

3. An [redacted] the existin[redacted]s.

Thank you for the opportunity to comment.

Sincerely,

DAVE PLUMMER,
Public Land Manager

cc: Larry Florin
Blake Stevenson
Carla Caruso
Jane Sekelsky

CRAMPTON
CAROLYN RITCHIE CRAMPTON . 215 - 27TH STREET SAN FRANCISCO, CALIFORNIA 94131 . 415-826-8266

July 11, 1995

Deborah
The Point office

re: Endangered/native plant and animal sightings at Hunters Point Shipyard

Dear Deborah,

Here's a copy of a letter I sent Barbara Sahm at the City Planning Commission for whqt it's worth. (It is too late to get this to Ruth Goldstein, but if you see her perhaps you can show this to her If I do make it to the meeting, I'll probably be there late.)

In response to a notice sent out by The Point office, the following is my collection of animal sightings. As a landscape painter, avid birdwatcher (novice) and animal lover, I am always asking other artists what they have seen. I have enclosed map to explain where these sightings were.

Since we are not allowed to wander around base, I have never visited the wetlands. I once snuck up the hill to get a look at the undeveloped hillside where there are supposed to be natural springs. I was hoping to locate some native amphibians or snakes there, but was afraid security would get mad if I went any farther.

Lastly, since they are now filling in the remaining wetlands area along Innes Ave., the pressures on the Point's habitat must be intensifying.

(Refer to map for location of letter)

A. Hummingbirds (unknown type) near trees on the way up the hill. They could be migratory—what happens if they cut down those trees?

B. Mockingbirds and many other birds (sparrows, finches) in trees and brush near hill.

B. Diana Krevsky says she has often seen large birds, either herons or egrets resting in the trees from her window, only at certain times of the year, perhaps they were migrating

C. Jane Wrench has seen [redacted] several times in the parking lot heading to the hill at dusk

D. Family of crows roosting on waterfront shipyard buildings, along with many seagulls

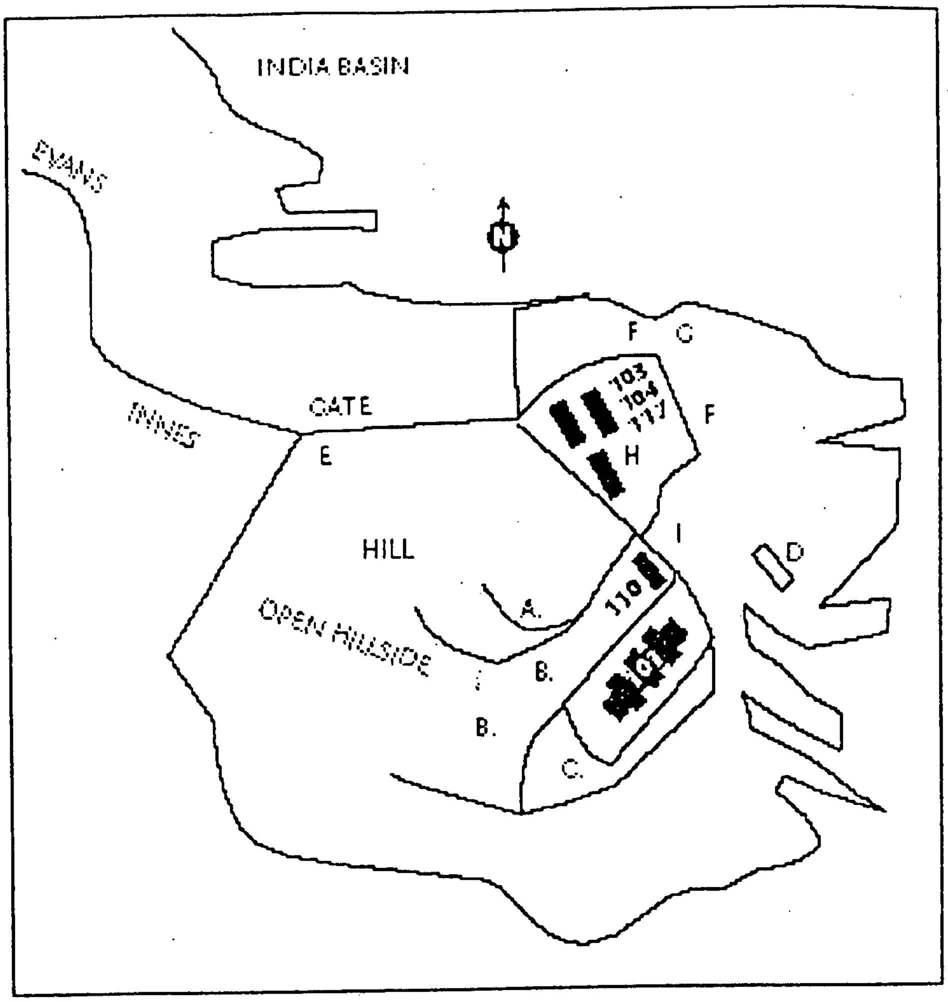
E. Red-tailed hawk and turkey vultures above or in Palm Trees near the main gate

F. I saw a family (about 4) of unusual birds—I think they were [redacted]s

G. Open studio visitors told me they saw big [redacted] near the water

H. Chris Braun told me there is a [redacted] living in redwood trees near Building 117, and that he has seen an owl there frequently. I have seen mockingbirds in the redwoods and oaks here.

I. I saw a feral cat and local dogs hunting birds while I was landscape painting. The birds are located anywhere there is [redacted] that have sprouted up near abandoned buildings.



- There should be lots of wetlands birds, and burrowing owls somewhere on base

All along in the planning process I have been lobbying for preservation of habitat instead of what some call "landscaping". At the very least, [redacted] the inhabitants of the Point have any hope of surviving. It's all very well to tear down an artists building and build another, but what do the hummingbirds and other animals do while their habitat is destroyed before new habitat is built? They can't go elsewhere because the few other remaining areas already are carrying their threshold level of animals. [redacted].

I hope this information is useful to you. I hope to attend the meeting tomorrow.

Sincerely,

Carolyn Crampton

Engineering Field Activity, West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, Ca 94066-5006

10JL95

Dear Ms. Doyle,

Enclosed please find my submission for the public scoping hearing that shall concern the Hunter's Point Shipyard Reuse plan. I intend to be at the public meeting on July 12, but thought it best to send along a written copy of my version of the future of Hunter's Point, because one can never be sure of what may happen (your car could malfunction, you could get hit by lightning, etc.).

-Sincerely,

Brent Robertson

Brent Robertson
1200- 17th Avenue #304
San Francisco, CA 94122

Engineering Field Activity, West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, Ca 94066-5006

10JL95

Dear Engineering Field Activity West,

After long and arduous research, I now submit to you the most effective and prudent uses of the Hunter's Point Naval Shipyard Facility. My work began on this subject several years ago and I am pleased to say that the existing EIS/ EIR is a worthy piece of work.

The five parcels should be de-toxified as well as can be, with some stipulations. Namely, the work should be done by citizens of the immediate area, with priority to minorities and within that, their proximity to the site. Second, they should be very careful, so as not to contaminate themselves, loved ones or visitors to the worksite. Giant signs should be installed to remind them of this.

I recommend that giant vacuum cleaner- type machines be used, and the refuse deposited in underground shelters, somewhere with little population, like Iowa. After this would come step two, sealing the parcels in alternating 6.78' layers of asphalt, concrete and turf, with the topmost layer consisting solely of sod.

Once this is accomplished, the re-use of facilities must be implemented *at once*, but with certain provisions. Existing tenants should be allowed to remain where they are (unless their parcel is being cleansed), but overall, the site should return to its maritime origins. Hence, the dry-docks should once again fix and/ or create sea going vessels, the infirmary should heal the wounded and people should actually *live* in the housing.

The beneficiaries should first be those connected in some way with the site, then come those living in the Bayview area, then those in such neighborhoods as the Excelsior and towns like Brisbane, and so on. This system of ever increasing circles should be the guide line to who gets access... the further out one is, the less priority he or she has.

As each of the five parcels is declared "clean", it should be double checked, and occupied *as soon as possible*, so that the land is not wasted and idle. Aside from the afore-mentioned marine uses, the area almost calls out for several other requisite uses. These include educational structures (in conjunction with City College and the local school district), a Hospice for incurables (which must, unfortunately, be located away from other tenants), an amusement park, city government offices, a Municipal Railway yard, a cattle grazing area, a miniature Indian Reservation, a penal colony, an armory for the National Guard, "Hooverville" homeless encampments, light industrial zones, and an area for the exclusive use of gambling dens. Of course, there many other uses, some of them valid.

The ultimate goal here is, as we area all aware, to make a large portion of the San Francisco Bay Area (and, indeed, it's history) an economical, environmental and eurysthean model for the rest of the world to look to for urban planning and ideal use of space.

-Sincerely,

Brent Roberison
1200- 17th Avenue #304
San Francisco, CA 94122

7/95

Submitted for:

Heather MacDougall
Acme Structures
Bldg. 104, HPS
(415) 822-6852

Heather MacDougall is a careful observer of [redacted] near her studio. Though these species are not endangered, diverse habitats are needed for the survival of all life. Existing flora and fauna need reliable homes.

Heather also has friends who have suggested [redacted].

submitted by Tanya Joyce

7/95

Submitted for:

Submarine Paperworks
Joan Rhine
Jim Meillander
Bldg. 103, HPS

Joan Rhine and Jim Meillander take regular walks around the shipyard. [redacted] Joan introduced Tanya Joyce to the [redacted], who approach Hunters Point during [redacted] and fishing boats.

The small shipyard beaches are surprisingly clean, as is the air. [redacted].

submitted by Tanya Joyce

EIS/EIR ON DISPOSAL AND REUSE OF NAVAL SHIPYARD HUNTERS POINT, JULY 12, 1995
SPEAKER REGISTRATION/COMMENT CARD

PLEASE CHECK YOUR AFFILIATION BELOW:

___	Individual (no affiliation)	✓	Citizen's Group
✓	Private Organization	___	Elected Representative
___	Federal State or Local Government	___	Regulatory Agency

Name: David Henderson
Organization (if applicable): ABU
Your Community: BVHP
Street Address (optional): HUNTERS POINT SHIPYARD BLD 38
City/State/Zip (optional): S.F. CA 94124
Phone # (optional): 415-359-7483

DO YOU WISH TO SPEAK THIS EVENING? ☐ YES ☐ NO

If you wish to provide written comments only, please write your comments below and turn them in at this meeting. Thank you.

Comments:

[redacted]

8/4
Navy copy. Blue highlight
Indicates Community Concern.
No NEPA/CEQA Concerns
expressed.

EIS/EIR ON DISPOSAL AND REUSE OF NAVAL SHIPYARD HUNTERS POINT, JULY 12, 1995
SPEAKER REGISTRATION/COMMENT CARD

PLEASE CHECK YOUR AFFILIATION BELOW:

- ___ Individual (no affiliation)
- ✓ Private Organization
- ___ Federal State or Local Government
- ___ Citizen's Group
- ___ Elected Representative
- ___ Regulatory Agency

Name: [illegible]
Organization (if applicable): Terra Environmental [illegible]
Your Community: San Francisco
Street Address (optional): 457 [illegible] #2
City/State/Zip (optional): Daly City
Phone # (optional): 415 991 2865 leave msg.

DO YOU WISH TO SPEAK THIS EVENING? ☐ YES ☑ NO

If you wish to provide written comments only, please write your comments below and turn them in at this meeting. Thank you.

Comments:

Good [illegible]

EIS/EIR ON DISPOSAL AND REUSE OF NAVAL SHIPYARD HUNTERS POINT, JULY 12, 1995
SPEAKER REGISTRATION/COMMENT CARD

PLEASE CHECK YOUR AFFILIATION BELOW:

- ___ Individual (no affiliation)
- ✓ Private Organization
- ___ Federal State or Local Government
- ___ Citizen's Group
- ___ Elected Representative
- ___ Regulatory Agency

Name: BISUN DUTT
Organization (if applicable): DSS GROUP
Your Community: SOUTH SANFRANCISCO
Street Address (optional): 514 RAILROAD AVE #7
City/State/Zip (optional): SOUTH SF CA 94080
Phone # (optional):

DO YOU WISH TO SPEAK THIS EVENING? ☐ YES ☒ NO

If you wish to provide written comments only, please write your comments below and turn them in at this meeting. Thank you.

Comments:

PLEASE SEND INFO TO ABOVE ADDRESS,
[redacted]

EIS/EIR ON DISPOSAL AND REUSE OF NAVAL SHIPYARD HUNTERS POINT, JULY 12, 1995
SPEAKER REGISTRATION/COMMENT CARD

PLEASE CHECK YOUR AFFILIATION BELOW:

- ____ Individual (no affiliation)
- ____ Private Organization
- ____ Federal State or Local Government
- ✓ Citizen's Group
- ____ Elected Representative
- ____ Regulatory Agency

Name: AL Williams
Organization (if applicable): H.P. CAC
Your Community: Hunters Point
Street Address (optional): c/o SFRA
City/State/Zip (optional): 770 Golden Gate Ave
Phone # (optional):

DO YOU WISH TO SPEAK THIS EVENING? ☑ YES ☐ NO

If you wish to provide written comments only, please write your comments below and turn them in at this meeting. Thank you.

Comments:

EIS/EIR ON DISPOSAL AND REUSE OF NAVAL SHIPYARD HUNTERS POINT, JULY 12, 1995
SPEAKER REGISTRATION/COMMENT CARD

PLEASE CHECK YOUR AFFILIATION BELOW:

- ____ Individual (no affiliation)
- ____ Private Organization
- ____ Federal State or Local Government
- ✓ Citizen's Group
- ____ Elected Representative
- ____ Regulatory Agency

Name: EVE BACH
Organization (if applicable): Arc Ecology
Your Community:
Street Address (optional): 833 Market St
City/State/Zip (optional): SF CA 94103
Phone # (optional): (415) 495-1786

DO YOU WISH TO SPEAK THIS EVENING? ☑ YES ☐ NO

If you wish to provide written comments only, please write your comments below and turn them in at this meeting. Thank you.

Comments:

EIS/EIR ON DISPOSAL AND REUSE OF NAVAL SHIPYARD HUNTERS POINT, JULY 12, 1995
SPEAKER REGISTRATION/COMMENT CARD

PLEASE CHECK YOUR AFFILIATION BELOW:

- ___ Individual (no affiliation)
- ✓ Private Organization
- ___ Federal State or Local Government
- ✓ Citizen's Group
- ___ Elected Representative
- ___ Regulatory Agency

Name: David Henderson
Organization (if applicable):
Your Community:
Street Address (optional):
City/State/Zip (optional):
Phone # (optional):

DO YOU WISH TO SPEAK THIS EVENING? ☑ YES ☐ NO

If you wish to provide written comments only, please write your comments below and turn them in at this meeting. Thank you.

Comments:

Social Economic Issues, Regarding
Preliminary/Final Reports, ShipYard Scope,
In comparison ShipYard Development Too,
"China Basin" Local Community Promises
and Political Covenants. No Repeat of
China Basin. US Interior, S.F. in CA.

EIS/EIR ON DISPOSAL AND REUSE OF NAVAL SHIPYARD HUNTERS POINT, JULY 12, 1995
SPEAKER REGISTRATION/COMMENT CARD

PLEASE CHECK YOUR AFFILIATION BELOW:

- ___ Individual (no affiliation)
- ___ Private Organization
- ___ Federal State or Local Government
- ✓ Citizen's Group
- ___ Elected Representative
- ___ Regulatory Agency

Name: Saul Bloom
Organization (if applicable): Arc Ecology
Your Community:
Street Address (optional): 833 Market #1107
City/State/Zip (optional): SF CA 94103
Phone # (optional): 415-495-1786

DO YOU WISH TO SPEAK THIS EVENING? ☑ YES ☐ NO

If you wish to provide written comments only, please write your comments below and turn them in at this meeting. Thank you.

Comments:

IS/EIR ON DISPOSAL AND REUSE OF NAVAL
HIPYARD HUNTERS POINT, JULY 12, 1995
PEAKER REGISTRATION/COMMENT CARD

LEASE CHECK YOUR AFFILIATION BELOW:

___ Individual (no affiliation)
___ Private Organization
___ Federal State or Local Government
X Citizen's Group
___ Elected Representative
___ Regulatory Agency

Jame: Willie McDowell
Organization (if applicable): (CAC) SHIP YARD
Your Community: Southeast
Street Address (optional): 1164 Fitzgerald Ave
City/State/Zip (optional): S.F. CA 94124
Phone # (optional): 415 822-2823

DO YOU WISH TO SPEAK THIS EVENING? [X] YES [ ] NO

If you wish to provide written comments only, please write your comments below and turn them in at this meeting. Thank you.

Comments:

EIS/EIR ON DISPOSAL AND REUSE OF NAVAL
SHIPYARD HUNTERS POINT, JULY 12, 1995
SPEAKER REGISTRATION/COMMENT CARD

PLEASE CHECK YOUR AFFILIATION BELOW:

___ Individual (no affiliation)
✓ Private Organization
___ Federal State or Local Government
___ Citizen's Group
___ Elected Representative
___ Regulatory Agency

Name: Alan Hopkins
Organization (if applicable): Golden Gate Audubon Society
Your Community: San Francisco, Berkeley, Oakland
Street Address (optional): 1200 15th Ave "
City/State/Zip (optional): San Francisco CA
Phone # (optional): (415) 664 0983

DO YOU WISH TO SPEAK THIS EVENING? [✓] YES [ ] NO

If you wish to provide written comments only, please write your comments below and turn them in at this meeting. Thank you.

Comments:

IS/[redacted]ON[redacted]PO[redacted]AN[redacted]EU[redacted]F N[redacted]AL
HIPYARD HUNTERS POINT, JULY 12, 1995
PEAKER REGISTRATION/COMMENT CARD

LEASE CHECK YOUR AFFILIATION BELOW:

___ Individual (no affiliation)
___ Private Organization
___ Federal State or Local Government
✓ Citizen's Group
___ Elected Representative
___ Regulatory Agency

Name: Ruth Goldstein
Organization (if applicable): Artist, Hunters Point Shipyard
Your Community:
Street Address (optional): PO Box 880731
City/State/Zip (optional): San Francisco CA 94188
Phone # (optional): 415-995-2837

DO YOU WISH TO SPEAK THIS EVENING? ☒ YES ☐ NO

If you wish to provide written comments only, please write your comments below and turn them in at this meeting. Thank you.

Comments:

[redacted]SHI[redacted]RD[redacted]NT[redacted]PO[redacted]JU[redacted], 19[redacted]
SPEAKER REGISTRATION/COMMENT CARD

PLEASE CHECK YOUR AFFILIATION BELOW:

___ Individual (no affiliation)
___ Private Organization
___ Federal State or Local Government
✓ Citizen's Group
___ Elected Representative
___ Regulatory Agency

Name: TANYA JOYCE
Organization (if applicable): ARTIST, HUNTERS POINT SHIPYARD
Your Community: BAYVIEW/HUNTERS POINT/POTRERO
Street Address (optional): POB 884311
City/State/Zip (optional): S.F. CA 94188-4311
Phone # (optional): (415) 822-8839

DO YOU WISH TO SPEAK THIS EVENING? ☑ YES ☐ NO

If you wish to provide written comments only, please write your comments below and turn them in at this meeting. Thank you.

Comments:
· I am an artist who has had a studio in the shipyard since 1984,
· I am glad to be at this scoping meeting.
· there are more artists and craftspeople at the shipyard conversant with [redacted] than are here today.
Please do not assume that our few numbers represent limited interest. We will provide subsequent data.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JUL 3 1 1995

Ms. Mary Doyle, (Code 185)
Engineering Field Activity West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066-5006

Dear Ms. Doyle:

The Environmental Protection Agency (EPA) has received the Notice of Intent (NOI) to prepare an Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the **Disposal and Reuse of the Former Naval Shipyard Hunters Point, San Francisco, California.** Our review is based on the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) NEPA Implementation Regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act (CAA).

The U.S. Navy, in collaboration with the City and County of San Francisco, is preparing the EIS/EIR to analyze the environmental impacts of the disposal and proposed reuse of the former naval shipyard's property and structures. This action is pursuant to the Defense Base Closure and Realignment Act of 1990 (P.L. 101-510), which stipulates the closure of Naval Station Treasure Island and its off-station property, including the Hunters Point Annex (formerly known as Naval Shipyard Hunters Point). The approximately 500-acre facility is located along the southeast San Francisco waterfront. The property is developed with industrial ship repair facilities and includes such support facilities as recreation areas and residences.

The EIS/EIR will analyze two reuse alternatives and a no-action alternative. A preferred alternative was drafted in March 1995 by the City and County of San Francisco Planning Department, the San Francisco Redevelopment Agency and the Mayor's Citizens Advisory Committee. This alternative would include industrial, research and development, cultural and institutional, and mixed retail, residential and commercial uses. Approximately 6,500 jobs and 1,300 residential units would be created. The second alternative would be a development similar to but of a reduced scale than the preferred alternative. This alternative would

Printed on Recycled Paper

include approximately 5,000 jobs and 600 residential units. The no-action alternative would retain the former shipyard in a perpetual caretaker status as federal government property.

We encourage the Navy to include Federal, State, regional (Bay Area), County, and City agencies in the Hunters Point Annex land use and environmental planning process. Moreover, the Navy should make a concerted effort to involve community members and local environmental groups in each step of the process as well. Because of the dense urban development which characterizes most of San Francisco, the relatively large size of the Hunters Point Annex property, the sensitive ecosystems of the San Francisco Bay, and the presence of nearby residential communities (many of which are likely subject to relatively high existing environmental constraints), this action has the potential to create far-reaching effects throughout the vicinity. Consequently, the Navy should use every opportunity in the early environmental planning and review process to avoid future problems and to maximize future benefits for all stakeholders in the reuse of Hunters Point Annex.

We appreciate the opportunity to comment on the proposed project and request that three copies of the Draft EIS/EIR be sent to this office (mail code E-3) at the same time it is filed with our Washington, D.C. office. Please address the documents to my attention. If you have any questions, please contact me at (415) 744-1584 or Jeff Philliber of my staff at (415) 744-1570.

Sincerely,

David J. Farrel, Chief
Office of Federal Activities

Attachment

2489HNTR.NO

AIR QUALITY COMMENTS

1. The Draft EIS/EIR should provide information regarding the Bay Area Air Quality Management District's (BAAQMD) current air quality (attainment) status. Generation of criteria pollutants at Hunters Point Annex expected under the proposed Action should be analyzed in the context of that attainment status. The Draft EIS/EIR should include a complete examination of the following:

- existing air quality conditions, problems and planning;
- potential air quality impacts from the proposed action;
- conformity with the State Implementation Plan (SIP), if applicable;
- air quality mitigation measures; and,
- project alternatives, including alternatives that minimize air quality impacts.

Particular note should be given to the BAAQMD's recent attainment status redesignation, and how that status might be affected by the proposed disposal and reuse of the Hunter's Point Annex. Pursuant to the requirements of Section 176(c) of the Clean Air Act, 42 U.S.C. Section 7506(c), Federal agencies are prohibited from engaging in or supporting in any way an action or activity that does not conform to an applicable State implementation plan. Conformity to an implementation plan means conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards. EPA has promulgated regulations at 58 Federal Register 63214 (November 30, 1993) implementing Section 176(c). Among other things, these regulations establish de minimis levels for actions requiring conformity determinations, exempt certain actions from conformity determinations, and create criteria and procedures that Federal agencies must follow for actions required to have conformity determinations. The Navy should review these regulations and discuss their applicability in the Draft EIS/EIR. If the Navy has any questions regarding these or other conformity requirements, please contact Bob Pallarino of the EPA Air and Toxics Division at (415) 744-1212.

WETLANDS AND WATER QUALITY RESOURCES

1. The U.S. Army Corps of Engineers should be contacted to determine the need for a Section 404 discharge permit. If a permit is required, EPA will review the proposed project for compliance with the Federal Guidelines (40 CFR 230) promulgated pursuant to Section 404(b)(1) of the Clean Water Act (CWA). In

keeping with the national goal of "no net loss" of wetlands, the Draft EIS/EIR should consider alternatives that will preserve wetland resources.

To comply with the Guidelines, the proposed project must meet all of the following criteria:

- There is no practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem (40 CFR 230.1(a)).

- The proposed project will not cause or contribute to significant degradation of waters of the United States, including wetlands (40 CFR 230.1(c)). Significant degradation includes loss of fish and wildlife habitat, including cumulative losses.

- The proposed project does not violate water quality standards, toxic effluent standards, or jeopardize the continued existence of federally listed species or their critical habitat (40 CFR 230.10(b)).

- All appropriate and practicable steps are taken to minimize adverse impacts on the aquatic ecosystem (i.e., mitigation) (40 CFR 320.10(d)). This includes incorporation of all appropriate and practicable compensation measures for avoidable losses to waters of the United States, including wetlands.

To characterize baseline conditions within the project area, the Draft EIS/EIR should include maps, text, and tables that feature areas occupied by wetlands, aquatic systems, and non-wetland riparian habitat. Direct, indirect and cumulative impacts to these resources should also be fully described in the Draft EIS/EIR.

If wetlands are affected, the Draft EIS/EIR should contain a mitigation plan that assures no net loss of wetland or riparian functions, values, and acreage. Areas that may already qualify as wetland/riparian habitat are not generally considered by EPA to be suitable for use as mitigation areas. Although encouraged by EPA, enhancement of existing wetland and riparian habitat is not in itself sufficient mitigation to meet the "no net loss" goal.

2. The Draft EIS/EIR should ensure that the proposed development and reuse would not affect the Department of Defense's obligation to meet water quality standards. The Draft EIS/EIR should describe existing treatment facilities and National Pollutant Discharge Elimination System (NPDES) permits and should discuss any need for additional facilities and permits to meet the needs of the proposed project.

BIOLOGICAL RESOURCES COMMENTS

1. The Navy should conduct all necessary field surveys and consult with appropriate state and federal agencies, including the U.S. Fish and Wildlife Service, in determining the range of species that could be affected by the action, as appropriate.

2. Hunters Point Annex Naval Shipyard is in close proximity to the sensitive biological habitats of the San Francisco Bay and bay wetlands. The Draft EIS/EIR should include a description of such areas in relation to Hunters Point Annex, and determine the potential magnitude of reuse-related effects on such areas (e.g. noise, air quality, etc.).

PUBLIC SERVICES AND UTILITIES COMMENTS

1. The Draft EIS/EIR should include a survey of regional landfill capacities that are available to Hunters Point Annex Naval Shipyard, and an analysis of net increase or decrease in solid waste generation that would result from the proposed development and reuse. The impacts associated with any substantial increases in solid waste generation should be assessed in relation to available landfill capacity. Wherever possible (and through such measures as conveyance and deed language), the Navy should encourage future users of the site to incorporate source reduction, recycling and reuse elements into its development and reuse action (e.g., provide recycling depositories throughout the reuse areas, etc.). The Draft EIS/EIR should also discuss recycling options in relation to the demolition and construction materials that would result from the proposed reuse.

2. The Draft EIS/EIR should include a discussion of pollution prevention and energy conservation opportunities related to Hunters Point Annex Naval Shipyard's proposed actions. It is the EPA's position that such opportunities should be integrated into the analysis as part of the physical and economic aspects of the proposed action. The Navy should encourage future users of the site to include pollution prevention and energy conservation into project plans.

3. The Draft EIS/EIR should include a survey of the regional water supplies and wastewater treatment capacity available to Hunters Point Annex and vicinity, and an analysis of the net increase or decrease in water demand and wastewater treatment demand expected as a result of the proposed development and reuse. The impacts associated with any substantial increases in such demands should be assessed with input from the appropriate regional water districts. Wherever possible (and through such measures as conveyance and deed language), the Navy should encourage future users of the site to exercise proactive water conservation measures in the development and reuse of Hunters Point Annex. Such design measures could include water-saving plumbing devices and drought-tolerant landscaping, as applicable.

4. The Draft EIS/EIR should survey the existing adequacy of police, fire, ambulance, hospital and health care services to the Hunters Point communities. Any effects on these levels that would result from the proposed action should be assessed in the Draft EIS/EIR, and mitigation should be identified as appropriate.

HAZARDOUS MATERIALS COMMENTS

1. The Draft EIS/EIR should identify Hunters Point Annex Naval Shipyard's hazardous materials storage, disposal and contamination history as relevant to the siting of future uses under the proposed action and land use plans.

2. The Draft EIS/EIR should include detailed descriptions of proposed efforts to remove hazardous waste and contamination from the site. Attention should be given to substances that can be or have been released into the adjacent aquatic and terrestrial environment. Such substances could include petroleum-based products, industrial chemicals, household chemicals, etc.

NEPA COMMENTS

1. In keeping with the Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898), the Draft EIS/EIR should describe the measures taken by the Navy to: 1) fully analyze the environmental effects of the proposed Federal action on minority communities and low-income populations, and 2) present opportunities for affected communities to provide input into the NEPA process. The intent and requirements of EO 12898 are clearly illustrated in the President's February 11, 1994 Memorandum for the Heads of all departments and Agencies.

2. The Draft EIS/EIR should include an analysis of potential cumulative effects in Hunters Point Annex's "Region of Influence" (ROI). (The ROI is the area surrounding the site that would be measurably affected by various components of the proposed action). According to 40 CFR 1508.7, "(c)umulative impacts can result from individually minor but collectively significant actions taking place over a period of time." The Draft EIS/EIR cumulative impacts analysis should include "the incremental impact of the action when added to other past, present and reasonably foreseeable future actions." A description of all planned, pending and approved projects in the ROI should be presented along with a map illustrating the locations of those projects. The incremental effects of the proposed action should then be added to other expected development effects in the region to determine cumulative impacts.

3. Mitigation is usually required to reduce or eliminate adverse environmental impacts. Therefore, it is important that the Navy describe proposed mitigation measures in the Draft EIS/EIR. These measures would then provide the basis for specific commitments carried forward to the Final EIS/EIR and the Record of Decision (ROD). The Navy should first seek to avoid adverse impacts through project design and planning. Unavoidable adverse impacts should be minimized and then mitigated through rectifying or compensatory measures. This guidance should be an integral part of the Navy planning process.

GENERAL COMMENTS

1. The Draft EIS/EIR should define significance criteria as they are applied to the impact analysis. Impacts should be clearly-stated along with their level-of-significance. Mitigation Measures should correspond to specific impacts.

2. The Draft EIS/EIR should clearly define and describe "baseline" conditions. Baseline conditions should be those conditions that exist at Hunters Point Annex immediately prior to project commencement. Positive and negative impacts should be assessed by comparing future conditions projected under the proposed Action to those baseline conditions established in the Draft EIS/EIR. Baseline conditions should be used consistently throughout the document as a basis for impacts analysis.

3. The Draft EIS/EIR should analyze noise, cultural and visual/aesthetic resources and the potential effects to these resources as a result of the proposed action.

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY PETE WILSON, Governor

DEPARTMENT OF TRANSPORTATION
BOX 23660
OAKLAND, CA 94623-0660
(510) 286-4444
TDD (510) 286-4454

RECEIVED
AUG 10
CITY & COUNTY OF S.F.
DEPT OF CITY PLANNING

August 7, 1995

SF-101-0.77
SCH# 95072085
SF101082

Ms. Barbara W. Sahm
City and County of San Francisco
Planning Department
1660 Mission Street
San Francisco, CA 94103

Dear Ms. Sahm:

RE: Notice of Preparation (NOP) for the **HUNTERS POINT SHIPYARD REUSE PLAN** - The proposed project is a Reuse Plan for the former Hunters Point Naval Shipyard, including educational, arts-related, cultural, retail, business services, industrial, maritime, residential and recreational/open space land uses.

Thank you for including the California State Department of Transportation (Caltrans) in the environmental review process. We have reviewed the above-referenced document and forward the following comments:

We recommend that a complete traffic study be conducted for this project and the proposed alternatives, to determine impacts on State Routes 101, 280 and all affected streets and controlling intersections. Traffic impacts should be analyzed in terms of the following:

a) Trip generation, distribution and assignment. The methodologies used in compiling this information should be explained.

b) Average Daily Traffic (ADT), AM and PM peak hour volumes for existing plus project, and cumulative traffic for all facilities examined. Coverage should include all traffic that would affect the facilities evaluated and it should not be limited to projects under the jurisdiction of the lead agency. Please include diagrams illustrating traffic data and a clear vicinity map showing the locations of approved and proposed projects in the State Enterprise Zone area.

c) Mitigations that consider highway and non-highway improvements and services. Special attention should be given to the development of alternative solutions to circulation problems which do not rely on increased highway construction. For example, include methods of traffic demand management and public transit development.

d) All mitigation measures being proposed should be fully discussed in the environmental document. Those discussions should include, but not be limited to the following areas:

Financing and scheduling
Implementation and monitoring responsibilities.

We look forward to reviewing the Draft EIR. We expect to receive a copy from the State Clearinghouse. However, to expedite the review process, you may send two copies in advance to the undersigned contact person for this agency at the following address:

Caltrans District 4
Transportation Planning
IGR/CEQA
P.O. Box 23660
Oakland, CA 94623-0660

We appreciate the opportunity to work with you on this project and wish to continue close correspondence on any new developments. Should you have any questions regarding these comments, please contact Alice Jackson of my staff at (510 286-5587.

Sincerely,

JOE BROWNE
District Director

By: Phillip Badal

PHILIP BADAL
District Branch Chief
IGR/CEQA

cc: Mike Chiriatti, SCH
Craig Goldblatt, MTC
Patricia Perry, ABAG

STATE OF CALIFORNIA - THE RESOURCES AGENCY

PETE WILSON, Governor

DEPARTMENT OF FISH AND GAME
POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5500

July 28, 1995

City & County of S.F.
Dept. of City Planing

AUG 02 1995

OFFICE OF
ENVIRONMENTAL REVIEW

Ms. Barbara W. Sahm
San Francisco Planning Department
1660 Mission Street
San Francisco, CA 94103

Dear Ms. Sahm:

Hunters Point Shipyard Reuse Plan
Notice of Preparation (NOP); SCH #95072085

Department of Fish and Game personnel have reviewed the NOP of a Draft Environmental Impact Report (DEIR) for the proposed Hunters Point Shipyard Reuse Plan. The project is a military base reuse plan incorporating a variety of uses and 100 acres of recreation/open space. We believe the following issues need to be addressed in the DEIR.

The DEIR should address potential impacts to biotic resources and water quality, as well as alternatives which would avoid impacts and mitigation measures for unavoidable impacts. Particular attention needs to be paid to State- and Federally-listed and candidate species, [redacted]. We request that subsequent documents related to this project be submitted for our review.

Specific measures to adequately mitigate unavoidable impacts need to be incorporated into project design prior to certification of the EIR. [redacted].

1. Avoidance or minimization of impacts to important plant and wildlife habitats.

2. Revegetation using native species.

3. Conformance with the Department Wetland Policy of no net loss of either wetland acreage or habitat value for unavoidable impacts.

4. Require a 100-foot setback from the edge of wetlands or riparian habitat.

The Department has direct jurisdiction under Fish and Game Code sections 1601-03 in regard to any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any stream. We recommend early consultation since modification of the proposed project may be required to avoid impacts to fish and wildlife resources. Formal notification under Fish and Game Code Section 1603 should be made after all other permits and certifications have been obtained. Work cannot be initiated until a streambed alteration agreement is executed.

The U. S. Army Corps of Engineers also has jurisdiction over the discharge of fill to streams and wetlands under Section 404 of the Clean Water Act. We recommend that the Corps be contacted to determine if they have jurisdiction and require a permit.

If you have any questions regarding our comments, please contact Jeannine M. DeWald, Associate Wildlife Biologist, at (408) 429-9252; or Carl Wilcox, Environmental Services Supervisor, at (707) 944-5525.

Sincerely,

Ken Aasen

Ken Aasen
Regional Manager
Region 3

Brushworks
P.O.B. 884311
S.F., CA 94188-4311
July 25, 1995

Dept. of City Planing
JUL 28 1995
OFFICE OF
ENVIRONMENTAL REVIEW

Dear Barbara Sahm:

Enclosed are the following additions to the developing list of shipyard flora and fauna begun at the recent scoping meeting:

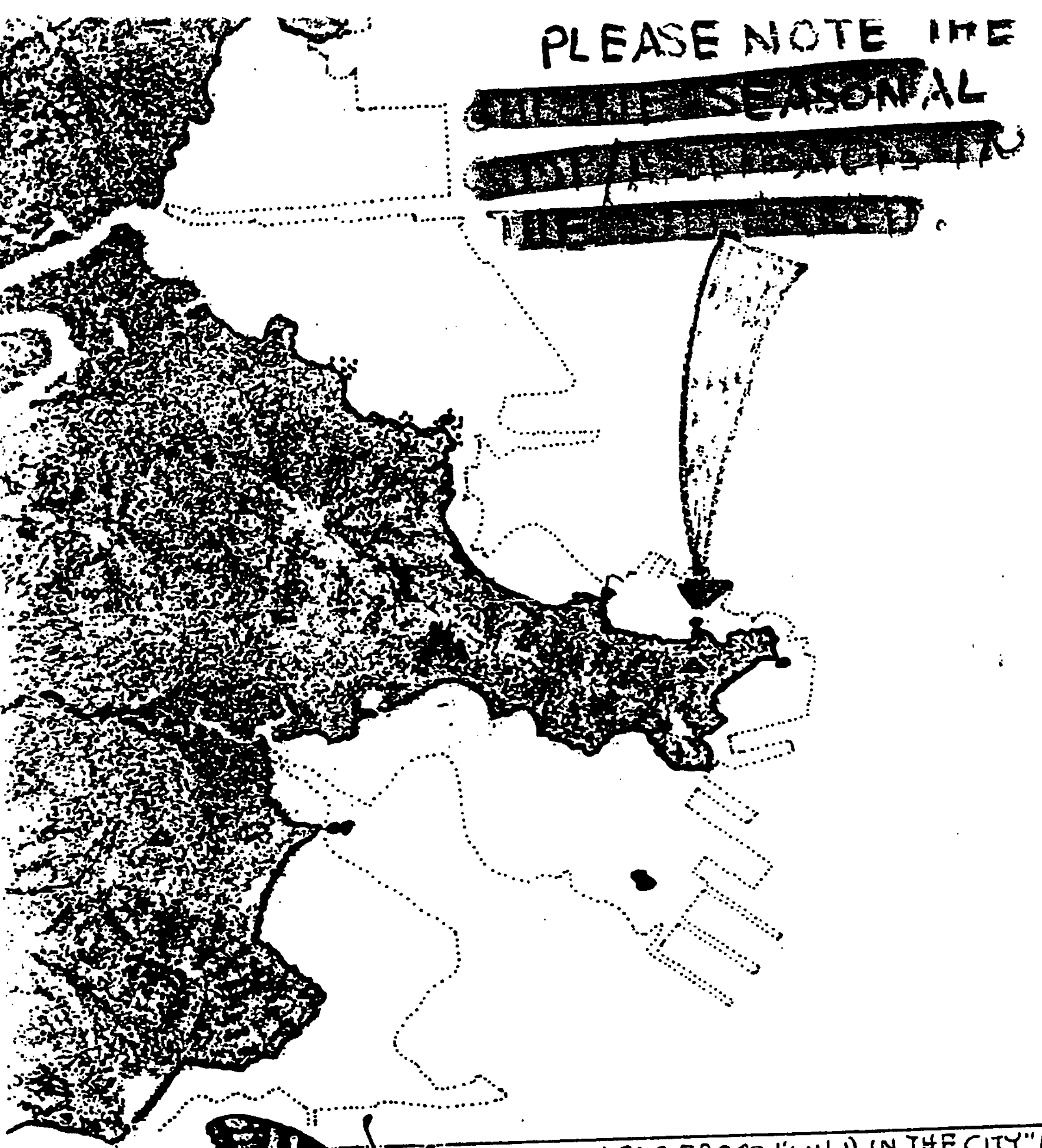
- My own additions—
  - [redacted] (map enclosed)
  - comments on two plants—
    A) [redacted] I gave you photographs is considered "extremely unusual" by two plant experts I showed photos to. I do not yet have an identification. Since much of the shipyard is technically off limits to tenants of the Point, we have yet to survey the area to find where all it may be growing.

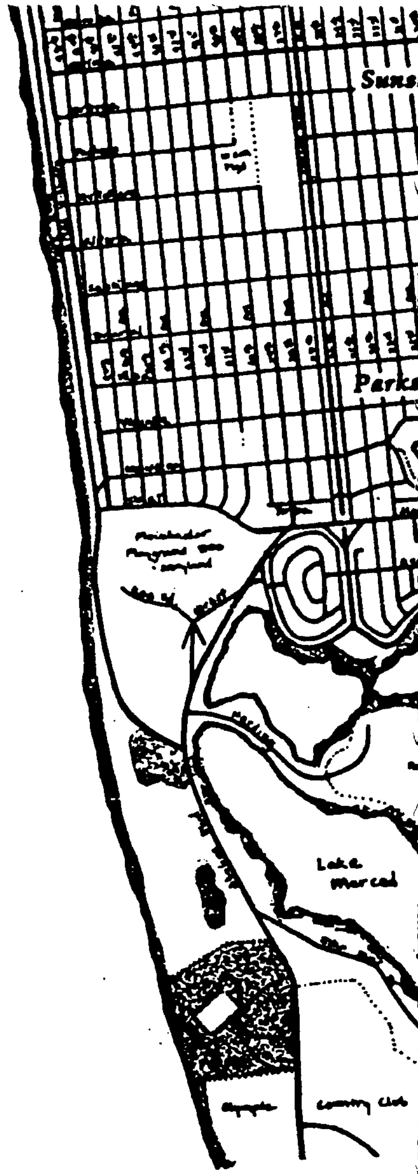
    B) [redacted] I mentioned to one of your colleagues is [redacted] or bacon and eggs (LOTUS CORNICULATUS). In Sibley Park (Oakland) the plant attracts a variety of butterflies, including blue ones.

- I have also submitted comments for two other artists I have not be able to get in touch with since the scoping meeting, but who have longstanding environmental interests they have discussed with me.

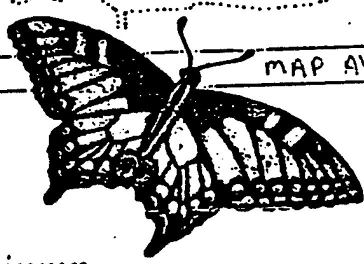
Sincerely,
Tanya Joyce
(415) 822-8839

PLEASE NOTE THE [redacted]





MAP AVAILABLE FROM "WILD IN THE CITY" 6 CYPRESS RD., SAN ANSELMO, CA

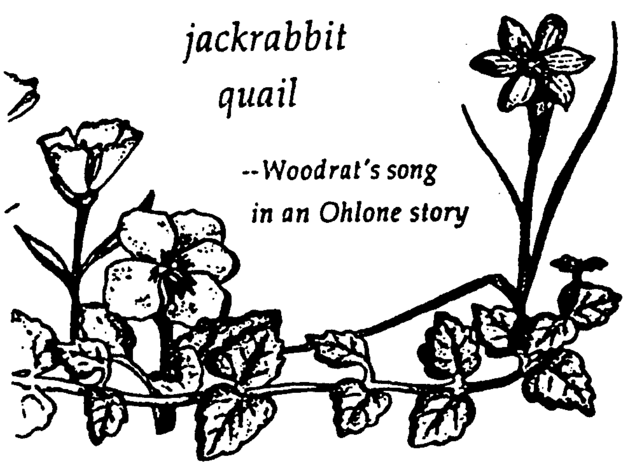


sand dune	Ohlone village*
grassland	Ohlone seasonal camp/artifacts
coastal scrub	native habitat semi-protected
freshwater creek	native habitat unprotected
saltwater marsh	topography 100' contours

* Sites shown are now inaccessible. Many more village and camp sites were located her but are not shown, either to protect their remains or because their locations are no longer known. All of this land was held sacred.

I dream jump
I you dream-of
rabbit
jackrabbit
quail

--Woodrat's song
in an Ohlone story



Planet Drum Foundation. The Ohlone song appears sy of Bay Area Land Watch. The Ohlone basket and nec

JEFFREY LONG

[redacted]

[redacted]

least terns
Caspian or royal terns
Western gulls
California gulls
comorants
brown pelicans
great blue herons
snowy egrets
sandpipers
willits
dowatchers
kildeers
ruddy ducks
surf scoters
wigeons
scaup
canvas backs
American coots
golden eagles
red tailed hawks
kestrels (nesting)
ravens
crows
blackbirds (nesting)
mocking birds (nesting)
brown towhees (nesting)
barn swallows (nesting)
house finches (nesting)
white crowned sparrows (nesting)
english sparrows (nesting)
robins (nesting)
starlings
mourning doves (nesting)
cedar waxwings (migrants)
bush tits
ring neck pheasant hen

[redacted]say:
[redacted]rn owls (nesting)
screech owls
black crowned night herons

[redacted]

sea lions
humpbacked whale
pocket gophers

[redacted]
[redacted]cktailed jackrabbits
grey foxes
raccoons

— Also verified
- Scrub jays
- Red-winged blackbirds
- Black-crowned night herons

86 Castro Street, San Francisco, CA 94114-1009 • Mail address
Hunters Point Shipyard, Bldg., 101, #2412, San Francisco, CA • Studio
(415) 822-4714 • Studio phone

July 6, 1995

Ms. Mary Doyle
Western Division
Naval Facilities Engineering Command
900 Commodore Drive, Mail Code 185
San Bruno, California 94066-5006

Subject: Notice of Preparation (NOP), Disposal and Reuse of Hunters Point

Dear Ms. Doyle:

This letter constitutes MTC staff comments on your Notice of a draft Environmental Impact Report (DEIR) and Environmental Impact Statement (EIS) for the disposal and reuse of Hunters Point Naval Shipyard. This project consists of the utilization of existing facilities on the former Naval Shipyard to generate new jobs, new revenues and new recreational opportunities for the citizens of San Francisco. The project includes recommendations for reuse in ten distinctive land use categories, including industry, research and development, mixed use, education, cultural, future development, possible wetland restoration, residential and open space.

Civilian Seaport Reuse of a Portion of Hunters Point

Please consider civilian seaport development at Hunters Point in your preparation of the DEIR and the DEIS. Our Seaport Planning Advisory Committee approved designation of 56 acres for 3 bulk berths at Hunters Point for the Environmental Assessment now being prepared for the update of the San Francisco Bay Area Seaport Plan. We want to make sure that you will evaluate a marine terminal option in your analysis of alternatives.

Dredging

Please make sure to also consider alternatives with various levels of marine channel dredging to support future civilian marine terminal and potential shipyard requirements.

Transportation System Analysis

The EIR should identify the assumptions and methodology used for the traffic and transportation impact analysis. It should identify the population and employment projections used, as well as the transportation model used and the trip generation, distribution, modal split, and assignment equations in the model. The assumed transportation network should include only fully funded road and transit projects, even for the far-term analysis. The EIR should provide data supporting the choice of travel behavior assumptions. The assumptions should allow for a worst case analysis of traffic impacts, as required by CEQA.

The trip distribution model should take into account the projected incomes for jobs at this site, and whether the projected housing's costs are commensurate to the new job opportunities.

JOSEPH P. BORT METROCENTER • 101 EIGHTH STREET • OAKLAND, CA 94607-4700
510/464-7700 • TDD/TTY 5 A-68 7769 • FAX 510/464-7848

Please include road designations on the Draft Land Use Plan figure of the NOP. The EIR should present detailed traffic information for Interstate 280 and US 101, and Army Street, Evans Avenue, and Third Street operations along with arterial and local road analyses. This information should include volume to capacity ratios and level of service with implementation only of fully funded transportation projects.

Mitigation

Please discuss unfunded or partly funded transportation projects only as project mitigation, with potential funding sources and budgets identified. The analysis year should be 2010 or 2015, no earlier, to present a long-term view of project impacts.

Besides unfunded transportation projects, the mitigation section should look at the use of measures to reduce demand for single occupant vehicle use, including development site design to facilitate transit use as well as electronic commuting.

Thank you for the opportunity to comment on the Hunters Point Reuse Plan NOP. I look forward to receiving the DEIR/DEIS when you issue it.

Sincerely,

Marc F. Roddin
Manager
Seaport/Airport Planning

cc: Craig Goldblatt
John McCallum
Commissioner Siracusa
Jennifer Ruffolo
Barbara W. Sahm

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, WEST
NAVAL FACILITIES ENGINEERING COMMAND
900 COMMODORE DRIVE
SAN BRUNO, CALIFORNIA 94066-5006

IN REPLY REFER TO:

5090.1B
703/EP-1376
14 NOV 1997

SUBJECT: **PUBLIC HEARING AND DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT FOR THE DISPOSAL AND PROPOSED REUSE OF THE FORMER HUNTERS POINT NAVAL SHIPYARD, SAN FRANCISCO, CALIFORNIA**

Hunters Point Naval Shipyard is closed, pursuant to the Defense Base Closure and Realignment Act, Public Law 101-510. as implemented by the 1993 base closure process. Under Section 2824 of Public Law 101-510, as amended, the Navy plans to convey the former Naval shipyard to the City of San Francisco for community reuse.

As part of this process, the Department of the Navy and the City and County of San Francisco Planning Department/San Francisco Redevelopment Agency have prepared a joint Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR) to evaluate the potential for significant environmental effects of the Navy disposal and two proposed community reuse alternatives of the former Naval shipyard. The joint Draft EIS/EIR has been prepared pursuant to Section 102 (2) (c) of the National Environmental Policy Act (NEPA), the Council of Environmental Quality (CEQ) implementing regulations (40 CFR 1500-1508), the California Environmental Quality Act (CEQA) statutes (Public Resources Code, @ 21000 et seq.) and CEQA Guidelines (14 CCR @ 15000 et seq.).

Two identical public hearings will be held for the purpose to receive oral and written comments on the joint Draft EIS/EIR. The first will be held on Wednesday, December 10, 1997, at 5:00 p.m. in Building 101, at Hunters Point Shipyard, San Francisco. The second hearing will be held at a joint meeting of the San Francisco Planning Commission and the San Francisco Redevelopment Agency Commission on Thursday, December 11, 1997, in Room 404, War Memorial Veterans' Building, 401 Van Ness Avenue, San Francisco, at 1:30 p.m. or later (call 415-558-6422 the week of the hearing for a recorded message giving a more specific time). Any interested party may appear at the hearing and give testimony regarding the accuracy and completeness of the Draft EIS/EIR.

The proposed federal action discussed in the joint Draft EIS/EIR is the disposal of federal surplus property former Hunters Point Naval Shipyard, San Francisco, California. The document also considers the potential significant impacts of two proposed community reuse alternatives of the property, the Reuse Plan, developed by the City and County of San Francisco and the San Francisco Redevelopment Agency, and the Reduced Development alternative as well as a No Action alternative. The Proposed Reuse Plan or the Reduced Development alternative would be implemented by the Hunters Point Shipyard Redevelopment Plan and both community alternatives emphasize mixed land uses of the site, including residential, industrial, maritime industrial, cultural, institutional, research and development, and open space. The federal government would retain the property in caretaker status under the No Action alternative.

Agencies, public groups and individuals are also invited to submit written comments on the Draft EIS/EIR. **Written correspondence must be received no later than January 5, 1998,** and should be addressed to either:

Commanding Officer
Engineering Field Activity, West
Attn: Ms. Mary Doyle, Code 703
900 Commodore Drive
San Bruno, CA 94066-5006

and/or

Ms. Hillary E. Gitelman, Environmental Review Officer
San Francisco Planning Department
1660 Mission St. Fifth floor
San Francisco, CA 94103

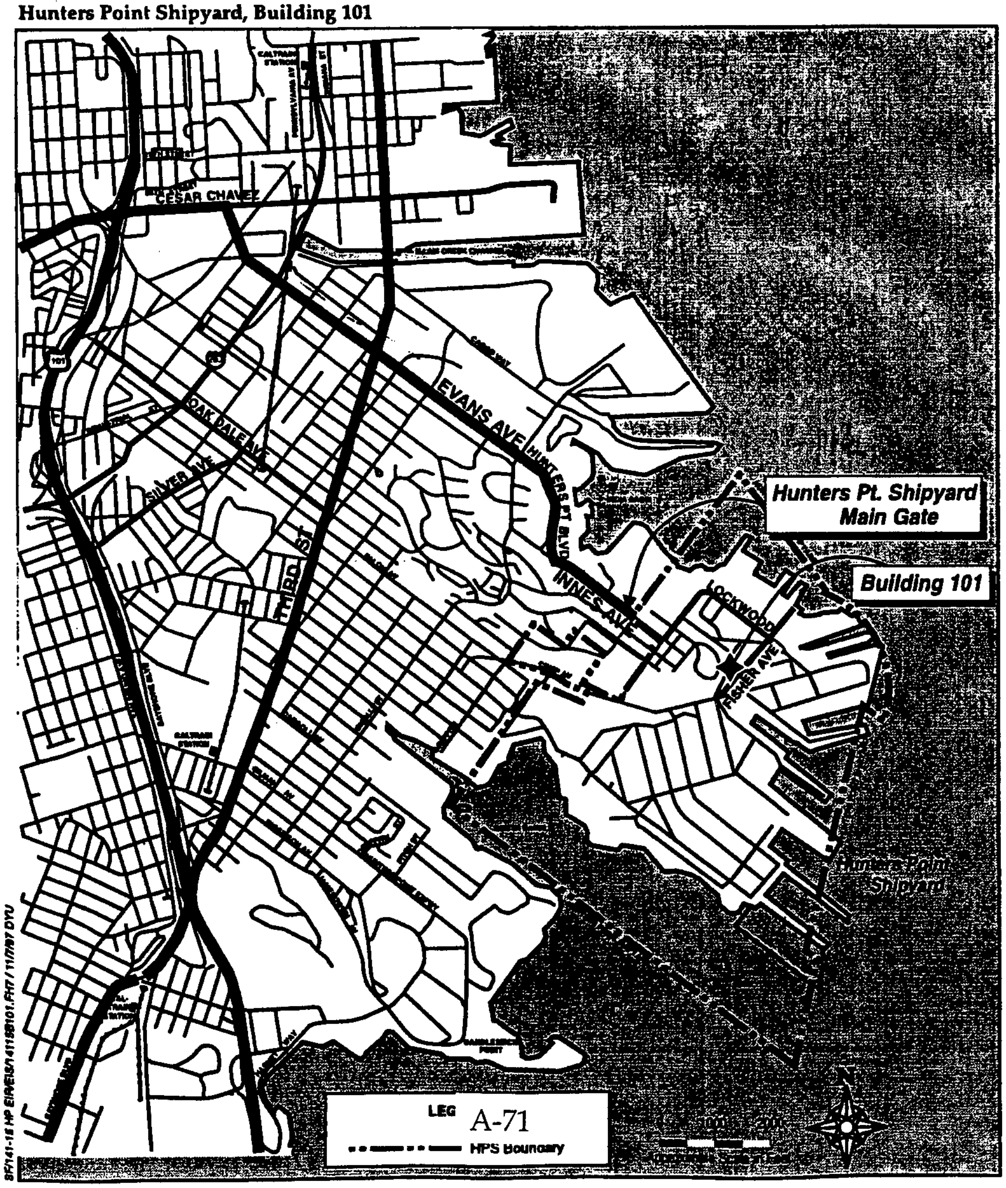
Copies of the Draft EIS/EIR are being distributed to an extensive mailing list of agencies, organizations and individuals thought to have an interest in the proposed action. The Draft EIS/EIR is available for review at the following locations:

San Francisco Planning Department,1660 Mission St, first floor, Planning Information Counter
San Francisco Main Public Library, Civic Center, Larkin & Grove Sts.
San Francisco Public Library, Anna E. Waden Branch, 5075 Third St.
San Francisco Redevelopment Agency, 770 Golden Gate Ave.

For further information concerning **environmental review** of the disposal and proposed reuse of the Hunters Point Naval Shipyard, contact Ms. Mary Doyle of the Department of the Navy at (650) 244-3024, FAX (650) 244-3206 or Mr. Brian J. Kalahar at the Major Environmental Analysis office of the San Francisco Planning Department at (415) 558-6359, FAX (415) 558-6426. For further information concerning the **San Francisco Proposed Reuse Plan and process**, contact Mr. Tom Conrad of the San Francisco Redevelopment Agency at (415) 749-2492, FAX (415) 749-2526. Thank you for your participation in this process.

John H. Kennedy
JOHN H. KENNEDY
Head, Planning SST Branch

Directions to Public Hearing at
Hunters Point Shipyard, Building 101



[Federal Register: November 21, 1997 (Volume 62, Number 225)]
[**Notices**]
[Page 62293]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr21no97-36]

DEPARTMENT OF DEFENSE

Department of the Navy

Notice of Public Hearing for the Joint Draft Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR) for the Disposal and Reuse of the Former **Hunters Point** Naval Shipyard, San Francisco, California

---

SUMMARY: Pursuant to the Council on Environmental Quality regulations (40 CFR parts 1500--1508), implementing the procedural provisions of the National Environmental Policy Act, and pursuant to the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), the Department of the Navy and the City of San Francisco have prepared and filed with the U.S. Environmental Protection Agency a joint Draft Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR) for the disposal and reuse of the former **Hunters Point** Naval Shipyard, San Francisco, California.

A Notice of Intent (NOI) to prepare the DEIS/DEIR was published in the Federal Register on 27 June 1995. A public scoping meeting for the proposed project was held on 12 July 1995 at Southeast Community Center, San Francisco, California.

Hunters Point Naval Shipyard is closed, pursuant to the Defense Base Closure and Realignment Act (Pub. L. 101-510) as implemented by the 1993 base closure process. Under Section 2824 of Pub. L. 101-510, as amended, the Navy plans to convey the former Naval Shipyard to the City of San Francisco. The proposed federal action involves the disposal of land, buildings and infrastructure of former **Hunters Point** Naval Shipyard for subsequent reuse. The City of San Francisco and the San Francisco Redevelopment Agency have been involved in a process to determine the reuse plans of the Naval Shipyard.

The environmental effects of two conceptual land use development alternatives (reuse alternatives) and the ``No Action'' alternative have been evaluated in the DEIS/DEIR. Each of the reuse alternatives describes proposed uses for approximately 935 acres of shipyard property. Proposed reuse alternatives emphasize mixed land uses including residential, industrial, maritime industrial, cultural, institutional, research and development, and open space.

No decision on the proposed action will be made until the National Environmental Policy Act process has been completed.

The DEIS/DEIR has been distributed to various federal, state and local agencies, local groups, elected official, special interest groups and individuals. The DEIS/DEIR is also available for review at the following locations:

--San Francisco Planning Department, Planning Information Center, 1660 Mission Street.
--San Francisco Main Library, Civic Center, Larkin & Grove Streets.
--San Francisco Public Library, Anna E. Waden Branch, 5075 Third Street.
--San Francisco Redevelopment Agency, 770 Golden Gate Ave.

ADDRESSES: Two public hearings will be held for the purpose to receive oral and written comment on the DEIS/DEIR. The first hearing will be held on Wednesday, December 10, 1997, at 5:00 p.m., in Building 101, at **Hunters Point** Naval Shipyard, San Francisco. The second hearing will be held at a joint meeting of the San Francisco Planning Commission and the San Francisco Redevelopment Agency Commission on Thursday, December 11, 1997, at 1:30 p.m., in Room 404, War Memorial Veterans' Building, 401 Van Ness Avenue, San Francisco. Federal, state and local agencies, and interested individuals are invited to be present or represented at the hearing. Oral comments will be heard and transcribed by a stenographer. To assure accuracy of the record, all comments should be submitted in writing. All comments, both oral and written, will become part of the public record in the study. In the interest of available time, each speaker will be asked to limit oral comments to five minutes. Longer comments should be summarized at the public hearing and submitted in writing either at the hearing or mailed to the address listed below.

FOR FURTHER INFORMATION CONTACT: Please provide written comments no later than January 5, 1998, to Ms. Mary Doyle, Engineering Field Activity West, Naval Facilities Engineering Command, 900 Commodore Drive, San Bruno, California 94066, telephone (650) 244-3024, FAX (650) 244-3206 or Mr. Brian Kalahar, City of San Francisco Planning Department, Major Environmental Analysis Office, 1660 Mission Street, San Francisco, California 94103, telephone (415) 558-6359, FAX (415) 558-6426.

Dated: November 18, 1997.
Darse E. Carndall,
LCDR, JAGC, USN, Federal Register Liaison Officer.
[FR Doc. 97-30672 Filed 11-20-97; 8:45 am]
BILLING CODE 3810-FF-P

Notice of Completion Appendix F

See NOTE below

SCH # 95072085

Mail to: State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814 916/445-0613

Project Title: Former Naval Shipyard Hunters Point Disposal and Reuse

Lead Agency: City & County of San Francisco/San Francisco Redev. Contact Person: Brian J. Kalahar

Street Address: 1660 Mission Street, Fifth Floor Phone: (415) 558-6359

City: San Francisco Zip: 94103 County: San Francisco

Project Location

County: San Francisco City/Nearest Community: San Francisco

Cross Streets: Innes Avenue and Donahue Street Total Acres: ± 965

Assessor's Parcel No. N/A (federal property) Section: ______ Twp. ______ Range: ______ Base: ______

Within 2 Miles: State Hwy #: N/A Waterways: San Francisco Bay

Airports: N/A Railways: Caltrain, Union Pacific Schools: Visitacion Valley Middle School, M.L. King Jr. M.S., Burton Academy H.S.

Document Type

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☒ Draft EIR ☐ Supplement/Subsequent ☐ EIR (Prior SCH No.) ______ ☐ Other ______

NEPA: ☐ NOI ☐ EA ☒ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other ______

Local Action Type

☐ General Plan Update
possible ☒ General Plan Amendment
☐ General Plan Element
☐ Community Plan
☐ Specific Plan
☐ Master Plan
☐ Planned Unit Development
☐ Site Plan
☐ Rezone
☐ Prezone
☐ Use Permit
☐ Land Division (Subdivision, Parcel Map, Tract Map, etc.)
☐ Annexation
☒ Redevelopment
☐ Coastal Permit
☐ Other ______

Development Type

☒ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☒ Commercial: Sq.ft. ____ Acres ____ Employees ____
☒ Industrial: Sq.ft. ____ Acres ____ Employees ____
☒ Educational ______
☒ Recreational ______
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ Watts ____
☐ Waste Treatment: Type ____
Hazardous Waste: Type ____
☐ Other ____

Project Issues Discussed in Document

☒ Aesthetic/Visual
☐ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☒ Coastal Zone
☒ Drainage/Absorption
☒ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☐ Forest Land/Fire Hazard
☒ Geologic/Seismic
☐ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks
☒ Schools/Universities
☐ Septic Systems
☒ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Wildlife
☒ Growth Inducing
☒ Landuse
☒ Cumulative Effects
☒ Other Utilities, energy, Environmental Justice

Present Land Use/Zoning/General Plan Use United States Naval Shipyard (closed); minor industrial uses. Federal property - no local zoning or general plan designations.

Project Description The Draft Environmental Impact Statement/Environmental Impact Report evaluates the potential for significant environmental effects of U.S. Navy disposal of Hunters Point Shipyard and two proposed community reuse alternatives. The City and County of San Francisco/San Francisco Redevelopment Agency Reuse Alternative emphasizes mixed use of the site.

NOTE: Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. from a Notice of Preparation or previous draft document) please fill it in.

Revised October 1989

Reviewing Agencies Checklist

KEY
S = Document sent by lead agency
X = Document sent by SCH
✓ = Suggested distribution

Resources Agency
____ Resources Agency
____ Boating & Waterways
____ Coastal Commission
____ Coastal Conservancy
____ Colorado River Board
____ Conservation
____ Fish & Game
____ Forestry
____ Office of Historic Preservation
____ Parks & Recreation
____ Reclamation
____ S.F. Bay Conservation & Development Commission
____ Water Resources (DWR)

Business, Transportation & Housing
____ Aeronautics
____ California Highway Patrol
____ CALTRANS District #____
____ Department of Transportation Planning (headquarters)
____ Housing & Community Development

Food & Agriculture
____ Food & Agriculture

Health & Welfare
____ Health Services ____

State & Consumer Services
____ General Services
____ OLA (Schools)

Environmental Affairs
____ Air Resources Board
____ APCD/AQMD
____ California Waste Management Board
____ SWRCB: Clean Water Grants
____ SWRCB: Delta Unit
____ SWRCB: Water Quality
____ SWRCB: Water Rights
____ Regional WQCB #____ (____)

Youth & Adult Corrections
____ Corrections

Independent Commissions & Offices
____ Energy Commission
____ Native American Heritage Commission
____ Public Utilities Commission
____ Santa Monica Mountains Conservancy
____ State Lands Commission
____ Tahoe Regional Planning Agency

____ Other ____

Public Review Period (to be filled in by lead agency)

Starting Date November 10, 1997

Ending Date January 5, 1998

Signature [signature]

Date 11/10/97

Lead Agency (Complete if applicable):

Consul

Addres

City/St

Contact

Phone:

Planning Department

Applicant: City & County of San Francisco

Address: 1660 Mission Street, 5th Floor

City/State/Zip: San Francisco

Phone: (415) 558-6378

For SCH Use Only:

Date Received at SCH ____

Date Review Starts ____

Date to Agencies ____

Date to SCH ____

Clearance Date ____

Notes:

Revised October 1989

PUBLIC NOTICE

The Department of the Navy in association with the City and County of San Francisco announces the availability of the former Naval Shipyard Hunters Point Disposal and Reuse Draft Environment Impact Statement/Environmental Impact Report (Draft EIS/EIR) and the scheduling of a public hearing. The Draft EIS/EIR, prepared in accordance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), analyzes the potential environmental impacts associated with the disposal of federal surplus land at former Naval Shipyard Hunters Point. The local action evaluated is the proposed reuse of the Hunters Point property, based on the Proposed Reuse Plan described in the City and County of San Francisco's
Land Use Alternatives and Proposed Draft Plan, Hunters Point Shipyard (March 1995, as revised January 1997). An alternative reuse scenario, and a no-action alternative which would result in the federal government retaining the property are also evaluated.

Pursuant to Section 102(2) of the NEPA and, the Council of Environmental Quality Guidelines (40 CFR 1500-1508), the Navy and the City and County of San Francisco are soliciting public comments on the Draft EIS/EIR. Copies of the Draft EIS/EIR are available for review at San Francisco Planning Department, 1660 Mission Street, 1st floor, Planning Information Center, San Francisco Main Public Library, Civic Center, Larkin & Grove Streets; San Francisco Public Library, Anna E. Waden Branch, 5075 Third Street; San Francisco Redevelopment Agency, 770 Golden Gate Avenue.

A PUBLIC HEARING ON THE DRAFT EIS/EIR
will be held
Wednesday, December 10, 1997 at 5:00pm
at the following address:

Building 101
Hunters Point Shipyard
San Francisco, CA

The purpose of the public hearing is to receive written and verbal comments on the former Naval Shipyard Hunters Point Draft EIS/EIR. Navy and City representatives will be at this public hearing to receive comments on the document.

Agencies and the public are encouraged to provide written comments in addition to, or in lieu of, oral comments at the public hearing. Comments should clearly describe specific issues or topics of concern. Written statements must be receivedno later than January 5, 1998, and should be addressed to:

COMMANDING OFFICER
ENGINEERING FIELD ACTIVITY WEST
NAVAL FACILITIES ENGINEERING COMMAND
900 COMMODORE DRIVE
SAN BRUNO, CA 94066-5006
ATTN: MS. MARY DOYLE (Code 185)

DRAFT EIS/EIR Distribution List
November 1997

Title	Last	First	Organization	Branch
			Elected Officials	
Attorney at Law	Katz	Leslie	Mayor of San Francisco, Appointed Public Representative	
Supervisor	Shelley	Kevin	San Francisco Board of Supervisors	Select Committee on Base Closures
	Florin	Lawrance	San Francisco Mayor's Office	
			The Honorable Barbara Boxer	
			The Honorable Dianne Feinstein	
			The Honorable John Burton	
			The Honorable Milton Marks	
			The Honorable Nancy Pelosi	
			The Honorable Quentin Kopp	
			The Honorable Tom Lantos	
			The Honorable Willie Brown	
			Federal Agencies	
			Federal Aviation Administration	
	Klimas	Denise	National Oceanic & Atmospheric Administration	c/o U.S. EPA Region IX (H-1-2)
			U.S. Army Corps of Engineers	Sacramento District
Commanding Officer			U.S. Coast Guard	Marine Safety Office, San Francisco Bay
	Griggs	Mary	U.S. Department of the Interior	Bureau of Indian Affairs
	Port	Patricia	U.S. Department of the Interior	Office of Environmental Policy and Compliance
Director	Deason,	Dr.Jon	U.S. Department of the Interior	Office of Environmental Policy and Compliance
	Goodson	Nancy	U.S. Department of the Interior	
			U.S. EPA	Office of Federal Activities
	Mangelsdorf	Alydda	U.S. EPA (H-9-2)	Federal Facilities Cleanup Office
Chief	Farrel	David J.	U.S. EPA Region IX	Office of Federal Activities
	Moyer	Bob	U.S. EPA Region IX	Office of Regional Counsel
	Haas	James	U.S. Fish & Wildlife Service	Division of Ecological Services
			Navy	
CDR	Elkins	Al	Bay Area Base Transition Coordinator	
	McClelland (Code 62.3)	Michael	Engineering Field Activity West	
			U.S. Navy	Commander, Naval Base (COMNAVBASE) (Code 03)
			U.S. Navy	Commander-in-Chief Pacific Fleet (CINPACFLT) (Code N44)
			State Agencies	
	Fortney	Cathrine	Bay Area Air Quality Management District	
			California Air Resources Board	
	Delaplaine	Mark	California Coastal Commission, Land Use	
	Martin	Michael	California Department of Fish & Game	CERCLA/NRDA Unit
			California Department of Fish and Game	Region 3, Coastal Region
	Todd	Bob	California Department of Parks and Recreation	
CEQA Review Branch			California Department of Transportation	Office of Joe Browne, District Director
			California Department of Water Resources	
	Shabahari	Cyrus	California EPA	Department of Toxic Substances
	Moskat	Gunther W.	California EPA	Department of Toxic Substances Control

Title	Last	First	Organization	Branch
			California Office of Planning and Research	State Clearing House
			California State Lands Commission	
	Widell	Cherilyn	California State Office of Historic Preservation	
	Hiett	Richard	Water Quality Control Board	San Francisco Bay Region
			Regional Agencies	
	Bursztynsky	Terry	Association of Bay Area Governments	Director of Environmental Services
	Ruffolo	Jennifer	Bay Conservation & Development Commission	
	Brittle	Chris	Metropolitan Transportation Commission	Metro Center
			City and County of San Francisco	
			Hetch Hetchy Water & Power	
	Olive	Sue	MUNI Service Planning	
	Lord	Paul	Planning Department, City and County of San Francisco	
	Sahm	Barbara W.	Planning Department, City and County of San Francisco	
	Kilstrom	Keri	Port of San Francisco	
	Lee	William	San Francisco Chief Administrative Officer	
	Cooper	John	San Francisco City Attorney's Office	
	Brownell	Amy	San Francisco Department of Public Health	Bureau of Toxics
	Bennett	Rod	San Francisco Fire Department	
	Whittle	Deborah	San Francisco Housing Authority	
Capt.	Holder	Richard	San Francisco Police Department	
Manager	Lee	Tommy	San Francisco Public Works Department	Bureau of Environmental Regulation and Management
	Learner	Debra	San Francisco Recreation and Park Department	McLaren Lodge
	Loving	Alan	San Francisco Redevelopment Agency	
	Rhett	Byron	San Francisco Redevelopment Agency	
Director	deVaughn	Marcia	San Francisco Solid Waste Management	
General Manager	Mullane	John	San Francisco Water Department	
			Organizations	
	Hope	Linda	(HPS Artists Association)	
			Advisory Council on Historic Preservation	
	Walker	Charlie	African American Truckers Association	
Chairperson	Zwierlein	Irene	Amah Tribal Band	
	Bloom	Saul	ARC Ecology/Arms Control Research Center	
	Feinstein	Arthur	Audubon Society	Golden Gate Chapter
	Herz	Michael	Bay Keeper Society	
			Bayview-Hunters Point Crime Prevention Council	
	Sowells	Darlene J.	Bayview-Hunters Point Ecumenical Council	
	Gross	Shirley	Bayview-Hunters Point Foundation Administration Offices	
	Jackson	Espanola	Bayview Coordinating Council	
	House	Ralph	Bayview Hill Neighborhood Association	
	Pierce	Karen	Bayview Hunters Point Democratic Club	
	Agbabiaka	Nicholas S.	Bayview Hunters Point Homeowners and Residential Community Development Council	
	McCoy	Harold	Bayview Merchants Association	

Title	Last	First	Organization	Branch
			Bayview Welfare Support Services	
	Madison	Scott	Businesses of Hunters Point Shipyard	
	King	Leroy	c/o ILWU	
	Williams	Alfred	CAC Consultant	
Chair	Jones	Shirley	Caheed Child Care Center	
	Robinson	Alma	Cal. Lawyers for the Arts	
			California Environmental Trust	
	Sigg	Jake	California Native Plant Society	Yerba Buena Chapter
	Beeras	James	Coalition on Homelessness	
	Gendel	Neil	Consumer Action	
	Williams	Kevin B.	Friends of Candlestick Point	
	Smith	Reuben	Hunters Point Boys and Girls Club	
			Hunters Point Community Youth Park	
	Viera	Julia	Hunters Point Homeowners Association	
	Middleton	Julia	Hunters Point Recreation Center	
Chairperson	Sayer	Ann Marie	Indian Canyon Mutsun Band of Costanoan	
	Kern	Douglas	Kern Mediation Group	
	Bertone	Don	Little Hollywood Improvement Association	
	Stark	Rebecca	Mariners Village Homeowners Association	
			McKinnon Avenue Community Club	
	Reid	Douglas	Moran Heights Homeowners Association	
Chairperson	Cambra	Rosemary	Muwekma Indian Tribe	
			Natural Resources Defense Council	
	Murray	Samuel A.	New Bayview Committee	
	Govender	Manjala	New Hp Homeowners Assoc.	
	Kehl	Jakki	Ohlone Group	
	Marquis	Kenneth	Ohlone Group	
	Orozco	Patrick	Ohlone Group	
	Yamane	Linda G.	Ohlone Group	
	Rodriguez	Ella Mae	Ohlone Group	
	Galvan	Andrew	Ohlone Group	
	Hardee	Will	Pacific Gas & Electric Company	
	Gray	Tony	Precision Transport	
	McCoy	Yvette	Progress Seven	
	Law	Sally Ann	RAND	
	Holmes	Marc	Restoring the Bay Campaign	
	Frazier	Rochele	S.F. Senior Escort Program	
	Tuiasosopo	Nofoalum	Samoan Mo Samoa	
	Lee	Sue	San Francisco Chamber of Commerce	
	Christensen	Pat	San Francisco Council of District Merchants	
	Brittan	Georgia	San Francisco for Reasonable Growth	
	Bahlman	David	San Francisco Heritage	
	Allman	Richard	San Francisco Housing & Tenants Council	
	Lucas	Lorraine	San Francisco League of Neighborhoods	
	Dutra	Louise	San Francisco Organizing Project	
	Chappel	James	San Francisco Planning and Urban Research Association	
	Nash	Andy	San Francisco Tomorrow	
	Mix, Jr.	George	San Francisco Urban League	
	Morishita	Leroy	SFSU Admin. Plan	
			Sierra Club	San Francisco Bay Chapter
			Sierra Club	
			Silk Gaudain	
	Alschuler	Karen	SMWM	
	Pitcher	Alex	South Bayshore CDC	
	Browning	Sy-Allen	South East Economic Group (SEED)	
	Brown	Bernice	Southeast Community College	

Title	Last	First	Organization	Branch
	Garlington	Ethel	Southeast Community Facility	
	Palega	Sulu	Southeast Community Facility Commission	
			Southeast Economic Development Group	
	Lezama	Glen	Union Bank	
	Dominski	Tony	West Edge Design	
			Youth Community Developers	
			Individuals	
	Banks	Jesse		
	Stern	Clarence		
	Thibeaux, Jr.	Leon		
	Jones	Joyce		
	Pierce	Karen		
	O'Neill	Francis J.		
	Hardin	Heidi		
	Mackin	Edward		
	Oertel	Diana		
	McDaniels	Carolyn		
	Bell McDowell	Willie		
	Choy Ong	Cynthia		
	Madison	Scott		
	Sims	Willa		
	Tui	Manuma		
	James	Wedrell		
	Yamauchi	Lori		
	McCoy	Ilean		
	Bailey	Carolyn		
	Mousseaux (Mcleod)	Jenny		
	Washington	Caroline		
	Ramirez	Alex		
	Harris	Michael		
	White	Gwenda		
	Huggins	Karen		
	Umble	David		
			Libraries	
	Wingerson	Kate	Government Documents San Francisco Public Library	San Francisco Main Public Library Anna E. Waden Branch
			Newspapers	
			Asian Week	
			Bay City News Service	
			Chinese News Service	
			Chinese Times	
			El Bohemio News	
			International Daily News	
			Korea Central Daily News	
	Ratcliff	Mary	New Bayview Newspaper	
			Nichi Bei Times	
			Philippine Examiner Today	
			Potrero View Newspaper	
			San Francisco Bay Guardian	
			San Francisco Bay Times	
	King	John	San Francisco Chronicle, Press Office	
	Adams	Gerald	San Francisco Examiner	
Ms.	Wilcox	Linda	San Francisco Independent	
			San Francisco Weekly	
			The New Fillmore Newspaper	
Mr.	Washington	Huel	The Sun Reporter	
			The Tenderloin Times	

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, WEST
NAVAL FACILITIES ENGINEERING COMMAND
900 COMMODORE DRIVE
SAN BRUNO, CALIFORNIA 94066-5006

IN REPLY REFER TO:

5090.1B
703/EP-1600
November 3, 1998

SUBJECT: PUBLIC HEARING AND REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT FOR THE DISPOSAL AND PROPOSED REUSE OF HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

Hunters Point Shipyard closed pursuant to the Defense Base Closure and Realignment Act, Public Law 101-510, as implemented by the 1993 base closure process. Under Section 2824 of Public Law 101-510, as amended, the Navy plans to convey the former Naval shipyard to the City of San Francisco for community reuse.

As part of this process, on November 14, 1997, the Department of the Navy and the City and County of San Francisco Planning Department (City)/San Francisco Redevelopment Agency (Agency) published a joint Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR) to evaluate the potential for significant environmental effects of the Navy disposal and two proposed community reuse alternatives of the former Naval shipyard. The joint Draft EIS/EIR was prepared pursuant to Section 102 (2) (c) of the National Environmental Policy Act (NEPA) of 1969 as implemented by the Council of Environmental Quality regulations 40 CFR Parts 1500-1508, the California Environmental Quality Act (CEQA) Public Resources Code, Sec 21000 et seq., as amended.

Four public hearings were held, and substantial written comments were received by the end of the comment period on January 20, 1998. As a result of testimony received from the public, the Navy, City, and Agency have jointly determined that this Revised Draft EIS/EIR be prepared and circulated for public and agency review. Comments received on the November 14, 1997 Draft EIS/EIR have been considered during development of the revised text but have not been responded to individually. Those who commented on the prior review document are encouraged to review this Revised Draft EIS/EIR.

Two identical public hearings will be held for the purpose of receiving oral and written comments on the joint Revised Draft EIS/EIR. The first will be held on **Wednesday December 9, 1998 at 5:00 p.m. in Building 101 Auditorium at Hunters Point Shipyard, San Francisco**. The second hearing will be held at a joint meeting of the San Francisco Planning Commission and the San Francisco Redevelopment Agency Commission on **Thursday December 17, 1998 in Room 404, War Memorial Veterans' Building, 401 Van Ness Avenue, San Francisco, at 1:30 p.m. or later** (call 415-558-6422 the week of the hearing for a recorded message giving a more specific time). Any interested party may appear at a hearing and give testimony regarding the accuracy and completeness of the Revised Draft EIS/EIR.

The proposed Federal action discussed in the joint Revised Draft EIS/EIR is the disposal of Federal surplus property at the former Hunters Point Shipyard, San Francisco, California. The document also considers the potential significant impacts of two proposed community reuse alternatives of the property, the Proposed Reuse Plan Alternative, developed by the City and the Agency and the Reduced Development Alternative. The Proposed Reuse Plan or the Reduced Development alternative would be implemented by the Hunters Point Shipyard Redevelopment Plan. Both community alternatives emphasize mixed land uses of the site, including residential, industrial, maritime industrial, institutional, research and development, and open space. The document also evaluates a No Action alternative in which the Federal government would retain the property in caretaker status.

Agencies, public groups and individuals are invited to submit written comments on the Revised Draft EIS/EIR during the 60-day review period, which ends on January 5, 1999. Written correspondence must be received no later than January 5, 1999, and should be addressed to either:

Engineering Field Activity West Naval Facilities Engineering Command Attn: Mr. Gary Munekawa, Code 7032, Bldg 209/1 900 Commodore Drive San Bruno, CA 94066-5006	and/or	City and County of San Francisco San Francisco Planning Department Attn: Ms. Hillary Gitelman 1660 Mission Street, Fifth Floor San Francisco, CA 94103

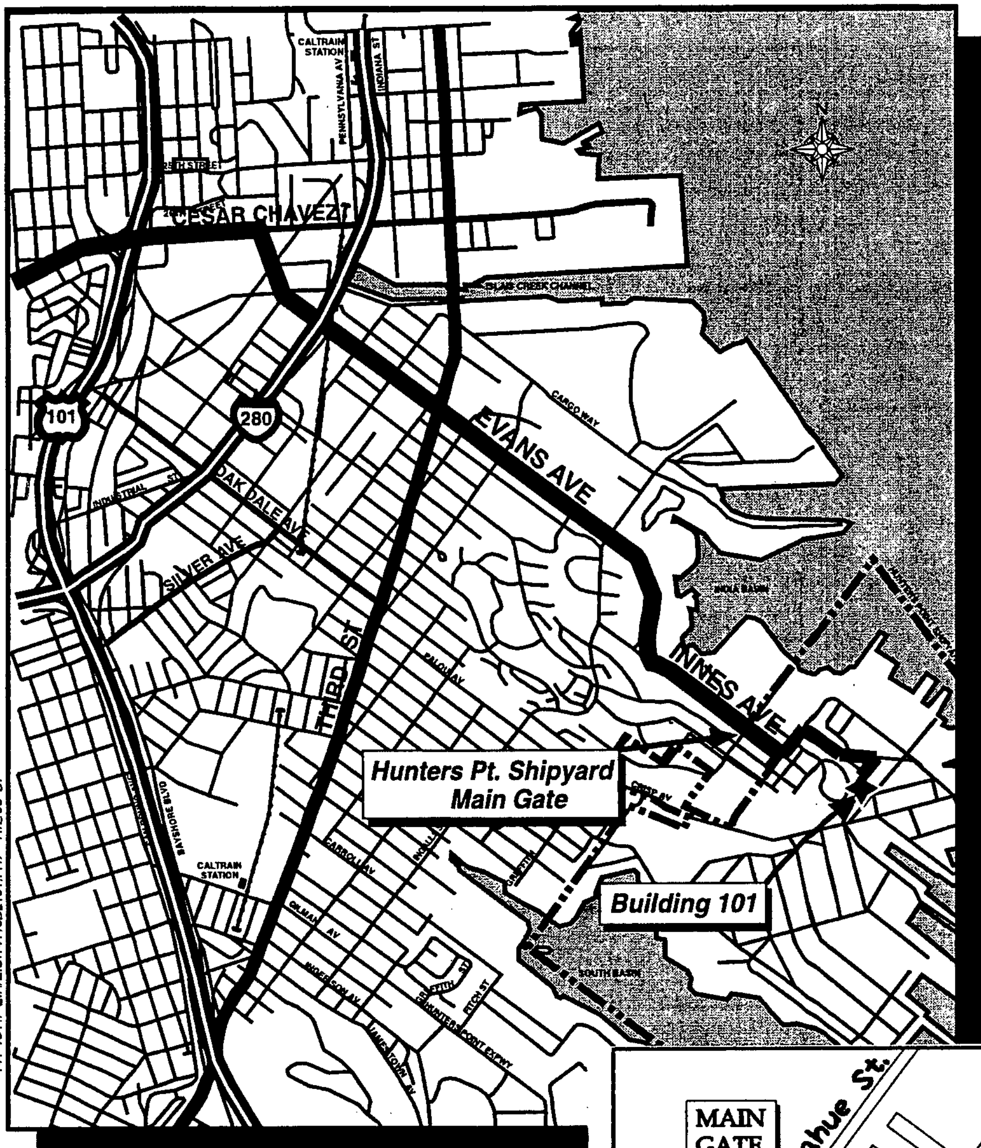
Copies of the Revised Draft EIS/EIR are being distributed to an extensive mailing list of agencies, organizations and individuals thought to have an interest in the proposed action, and a limited number of copies are available on request at the San Francisco Planning Department or from the Navy. The Revised Draft EIS/EIR is also available for review at the following locations in San Francisco:

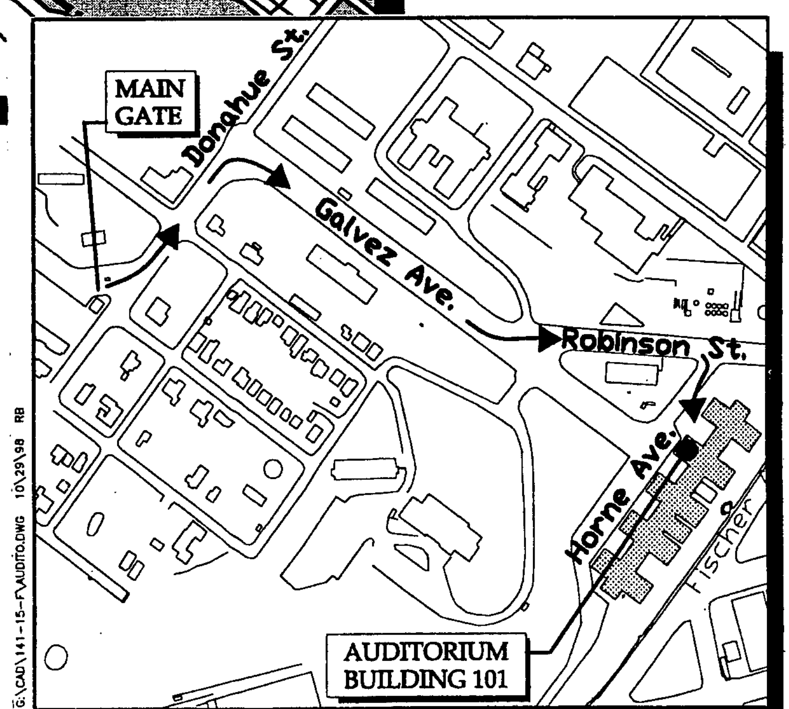
San Francisco Planning Dept, 1660 Mission St., 1st Floor, Public Information Counter
San Francisco Main Public Library, Civic Center, Larkin & Grove Sts.
San Francisco Public Library, Anna E. Waden Branch, 5075 Third St.
San Francisco Redevelopment Agency, 770 Golden Gate Ave., 3rd Floor Reception Area

For further information concerning environmental review of the disposal and proposed reuse of the Hunters Point Shipyard, contact Mr. Gary Munekawa of the Department of the Navy at (650) 244-3022, FAX (650) 244-3206 or Ms. Hillary Gitelman of the San Francisco Planning Department at (415) 558-6381, FAX (415) 558-6426. For further information concerning the San Francisco Reuse Plan and process, contact Mr. Tom Conrad of the San Francisco Redevelopment Agency at (415) 749-2492, FAX (415) 749-2526. Thank you for your participation in this process.

John H. Kennedy
JOHN H. KENNEDY
Head, Planing Specialist Support Team

Directions to Public Hearing at Hunters Point Shipyard, Building 101





From 101,

Take Cesar Chavez east.

Turn right on Evans Avenue, which becomes Hunters Point Boulevard and then Innes Avenue.

Continue to Main Gate and then follow map below.

[Federal Register: November 6, 1998 (Volume 63, Number 215)]
[Notices]
[Page 59988-59989]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr06no98-65]

==

ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-5496-6]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information (202) 564-7167 OR (202) 564-7153.

Weekly receipt of Environmental Impact Statements Filed October 26, 1998 Through October 30, 1998 Pursuant to 40 CFR 1506.9.

EIS No. 980439, LEGISLATIVE DRAFT EIS, USA, NM, McGregor Range Military Land Withdrawal Renewal, Fort Bliss, Otera County, NM and TX, Due: February 09, 1999, Contact: Anthony Rekas (703) 614-4991.
EIS No. 980440, DRAFT EIS, AFS, MT, Taylor Fork Timber Sale and Road Restoration, Implementation, Buck Creek, Taylor Fork Creek and Eldridge Creek, Gallatin National Forest, Madison Ranger, Hebgen Lake Ranger District, Yellow Stone, Gallatin County, MT, Due: December 21, 1998, Contact: Julie Neff-Shea (406) 587-6706.
EIS No. 980441, DRAFT EIS, NPS, WA, Lake Roosevelt National Recreation Area, General Management Plan, Implementation, Ferry, Grant, Lincoln, Okanogan and Stevens Counties, WA, Due: January 31, 1999, Contact: Vaughn Baker (509) 633-9441.
EIS No. 980442, FINAL EIS, NPS, MI, Isle Royale National Park General Management Plan, Implementation, Keweenaw County, MI, Due: December 07, 1998, Contact: Michael Madell (402) 221-3493.
EIS No. 980443, FINAL EIS, COE, MN, ND, East Grand Forks, Minnesota and Grand Forks, North Dakota Flood Control and Flood Protection, Red River Basin, MN and ND, Due: December 07, 1998, Contact: John T. Shyne (651) 290-5270.
EIS No. 980444, DRAFT EIS, BLM, OR, Southeastern Oregon Resource Management Plan, Implementation, Comprehensive Framework of Managing Public Land, Malheur, Jordan and Andrew Resource Areas, Vale and Burns Districts, Malheur, Harney and Grant Counties, OR, Due: March 01, 1999, Contact: Gary Copper (541) 473-3144.
EIS No. 980445, DRAFT EIS, DOE, AZ, Griffith Energy Project, Construction and Operation, 520-Megawatt (MW) Natural Gas-Fired and Combined Cycle Power Plant, Right-of-Way Grant, Operating Permit and COE Section 404 Permit, Kingman, AZ, Due: December 21, 1998, Contact: John Holt (602) 352-2692.
EIS No. 980446, REVISED DRAFT EIS, USN, CA, **Hunters Point** (Former) Naval Shipyard Disposal and Reuse, Implementation, Revised Information, City of San Francisco, San Francisco County, CA, Due: January 05, 1999, Contact: Gary J. Munekawa (650) 244-3022.
EIS No. 980447, FINAL EIS, CGD, CA, I-880/CA-92 Interchange Reconstruction, I-880 from Winton Avenue to Tennyson Road and CA-92 from Hesperian Boulevard to Santa Clara Street, Funding, City of Hayward, Alameda County, CA, Due: December 07, 1998, Contact: Wayne Till (510) 437-3514.
EIS No. 980448, DRAFT EIS, AFS, OR, Beaver Creek Fuels Reduction and Associated Restoration Activities Project, Wallowa-Whitman National

Forest, La Grande Ranger District, Union County, OR, Due: December 21, 1998, Contact: Cindy Whitlock (541) 962-8501.
EIS No. 980449, DRAFT EIS, AFS, WY, Cold Springs Ecosystem Management Project, Implementation, Enhancement of Tree Harvesting and Sale, Medicine Bow-Routt National Forests, Douglas Ranger District, Converse and Albany Counties, WY, Due: December 21, 1998, Contact: Malcolm R. Edward (307) 358-4690.
EIS No. 980450, FINAL EIS, COE, MD, Ocean City, Restoration of Assateague Island, Water Resources Study, Town of Ocean City, Worcester County, MD, Due: December 07, 1998, Contact: Stacey Underwood (410) 962-4977.
EIS No. 980451, FINAL EIS, COE, FL, Jacksonville Harbor Navigation Channel Deepening Improvements, Construction, St. Johns River, Duval County, FL, Due: December 07, 1998, Contact: Rea Boothby (904) 232-3453.

Amended Notices

EIS No. 980425, FINAL EIS, FHW, IL, Federal Aid Route 310/US 67 Expressway Study, Godfrey to Jacksonville, Funding and COE Section 404 Permit, Madison, Jersey, Greene, Morgan and Scott Counties, IL, Due: November 23, 1998, Contact: William C. Jones (708) 283-3510. Published FR--10-23-98--Due Date Correction.
EIS No. 980437, DRAFT SUPPLEMENT, EPA, CA, International Wastewater

Treatment Plant and South Bay Ocean Outfall, Updated Information, Interim Operation, Tijuana River, San Diego, CA, Due: November 30, 1998, Contact: Elizabeth Borowiec (415) 744-1165.

U.S. EPA had applied to the Council on Environmental Quality (CEQ) under Section 1502(c)(4) of the CEQ Regulations for the Approval of Alternative Procedures. CEQ has approved the request by EPA for a 30-day Review Period.

Dated: November 3, 1998.
William D. Dickerson,
Director, NEPA Compliance Division, Office of Federal Activities.
[FR Doc. 98-29841 Filed 11-5-98; 8:45 am]
BILLING CODE 6560-50-U

Notice of Completion

Appendix F

Mail to: State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814 916/445-0613

SCH # 95072085

Project Title: HUNTERS POINT SHIPYARD DISPOSAL & REUSE

Lead Agency: SAN FRANCISCO PLANNING DEPT + REDEVELOPMENT Contact Person: HILLARY E. GITELMAN

Street Address: 1660 MISSION STREET Phone: (415) 558-6381

City: SAN FRANCISCO, CA Zip: 94103 County: SAN FRANCISCO

Project Location

County: SAN FRANCISCO City/Nearest Community: SAN FRANCISCO

Cross Streets: INNES AVENUE Total Acres: 493 ACRES

Assessor's Parcel No. N/A Section: ___ Twp. ___ Range: ___ Base: APPROX.

Within 2 Miles: State Hwy #: US 101 / I-280 Waterways: SF BAY

Airports: SFO Railways: CALTRAIN / UP Schools: YES

Document Type

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☒ Draft EIR ☐ Supplement/Subsequent ☐ EIR (Prior SCH No.) ___ ☐ Other ___

NEPA: ☐ NOI ☐ EA ☒ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other ___

Local Action Type

☐ General Plan Update
☒ General Plan Amendment
☐ General Plan Element
☐ Community Plan
☐ Specific Plan
☐ Master Plan
☐ Planned Unit Development
☐ Site Plan
☐ Rezone
☐ Prezone
☐ Use Permit
☐ Land Division (Subdivision, Parcel Map, Tract Map, etc.)
☐ Annexation
☒ Redevelopment PLAN
☐ Coastal Permit
☒ Other LEASE

Development Type

☒ Residential: Units 1300 Acres ___
☐ Office: Sq.ft. ___ Acres ___ Employees ___
☒ Commercial: Sq.ft. 1.5 MIL Acres ___ Employees ___
☒ Industrial: Sq.ft. 1.1 MIL Acres ___ Employees ___
☒ Educational/CULTURAL: .5 MIL SQ FT
☐ Recreational ___
☒ LIVE/WORK: 300 UNITS
☐ Water Facilities: Type ___ MGD ___
☐ Transportation: Type ___
☐ Mining: Mineral ___
☐ Power: Type ___ Watts ___
☐ Waste Treatment: Type ___
☐ Hazardous Waste: Type ___
☐ Other ___

Project Issues Discussed in Document

☒ Aesthetic/Visual
☐ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☒ Coastal Zone
☒ Drainage/Absorption
☒ Economic/Jobs
☐ Fiscal
☐ Flood Plain/Flooding
☐ Forest Land/Fire Hazard
☒ Geologic/Seismic
☐ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks
☒ Schools/Universities
☐ Septic Systems
☒ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Wildlife
☒ Growth Inducing
☒ Landuse
☒ Cumulative Effects
☐ Other ___

Present Land Use/Zoning/General Plan Use

FEDERAL (NAVY) PROPERTY

Project Description THE REVISED DRAFT EIS/EIR INCLUDES ANALYSIS OF NAVY DISPOSAL, A NO ACTION ALTERNATIVE, AND TWO REUSE ALTERNATIVES. BOTH REUSE ALTERNATIVES WOULD PROVIDE FOR A MIX OF INDUSTRIAL, COMMERCIAL, CULTURAL, AND RESIDENTIAL USES WITH ATTENDANT OPEN SPACE AND INFRASTRUCTURE IMPROVEMENTS. FOR MORE INFORMATION, SEE CHAPTER 2.

NOTE: Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. from a Notice of Preparation or previous draft document) please fill it in.

Revised October 1989

Reviewing Agencies Checklist

KEY
S = Document sent by lead agency
X = Document sent by SCH
✓ = Suggested distribution

X **Resources Agency**
___ Boating & Waterways
___ Coastal Commission
___ Coastal Conservancy
___ Colorado River Board
___ Conservation
___ Fish & Game
___ Forestry
___ Office of Historic Preservation
___ Parks & Recreation
___ Reclamation
X S.F. Bay Conservation & Development Commission
___ Water Resources (DWR)

Business, Transportation & Housing
___ Aeronautics
___ California Highway Patrol
X CALTRANS District # 4
___ Department of Transportation Planning (headquarters)
___ Housing & Community Development

___ **Food & Agriculture**

Health & Welfare
___ Health Services ___

State & Consumer Services
___ General Services
___ OLA (Schools)

Environmental Affairs
___ Air Resources Board
___ APCD/AQMD
___ California Waste Management Board
___ SWRCB: Clean Water Grants
___ SWRCB: Delta Unit
___ SWRCB: Water Quality
___ SWRCB: Water Rights
X Regional WQCB # ___ (OAKLAND OFFICE)

Youth & Adult Corrections
___ Corrections

Independent Commissions & Offices
___ Energy Commission
___ Native American Heritage Commission
___ Public Utilities Commission
___ Santa Monica Mountains Conservancy
___ State Lands Commission
___ Tahoe Regional Planning Agency

X Other CAL EPA / DTSC

Public Review Period (to be filled in by lead agency)

Starting Date November 6, 1998 Ending Date January 5, 1999

Signature [signature] Date 11/2/98

Lead Agency (Complete if applicable):
Consulting Firm: ___
Address: ___
City/State/Zip: ___
Contact: ___
Phone: ( ) ___

Applicant: ___
Address: ___
City/State/Zip: ___
Phone: ( ) ___

For SCH Use Only:
Date Received at SCH ___
Date Review Starts ___
Date to Agencies ___
Date to SCH ___
Clearance Date ___
Notes:

Revised October 1989

805 PUBLIC NOTICES | 805 PUBLIC NOTICES | 805 PUBLIC NOTICES | 805 PUBLIC NOTICES | 805 PUBLIC NOTICES

PUBLIC NOTICE

The Department of the Navy (Navy), in association with the City and County of San Francisco (City) and the San Francisco Redevelopment Agency (Agency), announces the availability of the *Revised* Draft Environmental Impact Statement/Environmental Impact Report (*Revised* Draft EIS/EIR) for the Disposal and Reuse of Hunters Point Shipyard and the scheduling of a public hearing. The *Revised* Draft EIS/EIR, prepared in accordance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), analyzes the potential environmental impacts associated with the disposal of Federal surplus land at Hunters Point Shipyard. The local action evaluated is the proposed reuse of the Hunters Point property, based on the Proposed Reuse Plan described in the City's *Land Use Alternatives and Proposed Draft Plan, Hunters Point Shipyard* (March 1995, as revised January 1997) and the Agency's redevelopment plan, adopted July 1997. An alternative reuse scenario and a no-action alternative, which would result in the Federal government retaining the property, are also evaluated. As part of the planning process, the Navy, City, and Agency published a joint Draft EIS/EIR on November 14, 1997. Four public hearings were held and substantial written comments received. Those comments were considered during development of the *Revised* Draft EIS/EIR.

Pursuant to Section 102(2) of NEPA, the Council of Environmental Quality Guidelines (40 CFR 1500-1508), the Navy, City, and Agency are soliciting public comments on the *Revised* Draft EIS/EIR. Copies of the *Revised* Draft EIS/EIR are available for review at the San Francisco Planning Department, 1660 Mission Street, 1st Floor, Planning Information Center; the San Francisco Main Public Library, Civic Center, Larkin & Grove Streets; the San Francisco Public Library, Anna E. Waden Branch, 5075 Third Street; and the San Francisco Redevelopment Agency, 770 Golden Gate Avenue.

PUBLIC HEARINGS ON THE *REVISED* DRAFT EIS/EIR

will be held

Wednesday, December 9, 1998 at 5:00 pm
Building 101 Auditorium
Hunters Point Shipyard
San Francisco, California

and

Thursday, December 17, 1998 at 1:30 pm or later
(Call 415/558-6422 the week of the hearing for a recorded message giving a more specific time.)
Room 404, War Memorial Veterans' Building
401 Van Ness Avenue
San Francisco, California

The purpose of the public hearings is to receive written and verbal comments on the *Revised* Draft EIS/EIR. Agencies and the public are encouraged to provide written comments in addition to, or in lieu of, oral comments at the public hearing. All comments will be treated equally and will be responded to in the final EIS/EIR. Written statements must be postmarked no later than January 5, 1999, and should be addressed to:

Engineering Field Activity, West
Naval Facilities Engineering Command
Attn: Mr. Gary Munekawa, Code 7032, Bldg 209/1
900 Commodore Drive
San Bruno, CA 94066-5006

and/or

City and County of San Francisco
San Francisco Planning Department
Attn: Ms. Hillary Gitelman
1660 Mission Street, Fifth Floor
San Francisco, CA 94103

Revised Draft EIS/EIR Distribution List
October 1998

Title	Last	First	Organization	Branch
Elected Officials				
			The Honorable Barbara Boxer	
			The Honorable Dianne Feinstein	
			The Honorable John Burton	
			The Honorable Nancy Pelosi	
			The Honorable Quentin Kopp	
			The Honorable Tom Lantos	
			The Honorable Willie L. Brown, Jr.	
Federal Agencies				
	Sachs	Steven	Department of Housing and Urban Development	Community Planning and Development, 9ADE
	Reynolds	John J.	Department of the Interior	National Park Service
	Sanderson Port	Patricia	Department of the Interior	Office of the Secretary
	White	Wayne	Department of the Interior	Fish and Wildlife Service
			Federal Aviation Administration	
	Doszkocs	Tom	General Services Administration, Region 9	Property Disposal Division (9PR)
	Sullivan	Laurie	National Oceanic & Atmospheric Administration	c/o U.S. EPA Region 9 (H-1-2)
			U.S. Army Corps of Engineers	Sacramento District
Commanding Officer			U.S. Coast Guard	Marine Safety Office, San Francisco Bay
	Bybee	Jim	U.S. Department of Commerce	National Marine Fisheries Service
	O'Brien	Pat	U.S. Department of Defense	Office of Economic Adjustment
	Ryett	Paul	U.S. Department of Defense	Office of Economic Adjustment
	Hakola	David	U.S. Department of Education	Real Property Group
	Hoops	George	U.S. Department of Education	Federal Real Property Assistance Program
Director	Deason	Dr. Jon	U.S. Department of the Interior	Office of Environmental Policy and Compliance
			U.S. Department of the Interior	Bureau of Indian Affairs
	Harris	Dan	U.S. Department of Transportation	Federal Highway Administration
			U.S. EPA	Office of Federal Activities
Chief	Farrell	David J.	U.S. EPA Region 9	Office of Federal Activities
	Moyer	Bob	U.S. EPA Region 9	Office of Regional Counsel
	Trombadore	Claire	U.S. EPA Region 9	
	Haas	James	U.S. Fish & Wildlife Service	Division of Ecological Services
Navy				
Commander	Gustafson	Jim	Caretaker Site Office	
			Commander-in-Chief Pacific Fleet	(CINPACFLT) (Code N44)
			COMNAVBASE, San Diego	Code N45, Environmental Programs
			Defense Technical Information Center	DTIC-BLS
State Agencies				
			California Air Resources Board	

Title	Last	First	Organization	Branch
	Delaplaine	Mark	California Coastal Commission, Land Use	
	Michael	Martin	California Department of Fish and Game	CERCLA/NRDA Unit
			California Department of Fish and Game	Region 3, Coastal Region
	Todd	Bob	California Department of Parks and Recreation	
	Curtiss	Kit	California Department of Transportation	Office of Transportation Planning
District Director	Yahata	Harry	California Department of Transportation	District 4
			California Department of Water Resources	
	Heusinkueld	Valerie	California EPA	Department of Toxic Substances Control
	Moskat	Gunther W.	California EPA	Department of Toxic Substances Control
	Jordan	Leigh	California Historical Resources Information Systems	Northwest Information Center
	Rivasplata	Antero A.	California Office of Planning and Research	State Clearinghouse
	Nevins	Terri	California State Coastal Conservancy	
Public Lands Manager	Plummer	Dave	California State Lands Commission	
SHPO	Abeyta	Daniel	California State Office of Historic Preservation	
	McAdam	Steve	San Francisco Bay Conservation & Development Commission	
	Scourtis	Linda	San Francisco Bay Conservation & Development Commission	
	Leland	David	San Francisco Bay Regional Water Quality Control Board	Groundwater Protection and Waste Containment Division
	Wheeler	Douglas	The Resources Agency	
Regional Agencies				
	Ryder	Suzan	Association of Bay Area Governments	
Manager	Zimmerman	Karita	BART	Environmental Compliance
	Fortney	Cathrine	Bay Area Air Quality Management District	
	Brittle	Chris	Metropolitan Transportation Commission	Metro Center
Local Agencies				
General Manager	Klein	Lawrence	Bureau of Energy Conservation	Hetch Hetchy Water & Power
	Anatore	Dennis A.	City and County of San Francisco	Planning Commission
President	Chinchilla	Hector	City and County of San Francisco	Planning Commission
Director	Chiu	Frank	City and County of San Francisco	Department of Building Inspection
	Hills	Richard	City and County of San Francisco	Planning Commission

Title	Last	First	Organization	Branch
	Joe	Cynthia	City and County of San Francisco	Planning Commission
	Martin	Lawrence B.	City and County of San Francisco	Planning Commission
	Mills	Beverly	City and County of San Francisco	Planning Commission
	Robinson	Joel	City and County of San Francisco	Recreation and Park Department
Vice President	Theoharis	Anita	City and County of San Francisco	Planning Commission
Secretary			City and County of San Francisco	Planning Commission
Secretary	Green	Andrea	Landmarks Preservation Advisory Board	
	Henderson	Paul	Office of District Attorney	
	Kilstrom	Keri	Port of San Francisco	
	Kennedy	Willie B.	Redevelopment Agency Site Office	
Chancellor	Anderson	Del	San Francisco Community College District	
	Brownell	Amy	San Francisco Department of Public Health	Bureau of Toxics
Manager	Lee	Tommy	San Francisco Department of Public Works	Bureau of Environmental Regulation and Management
	McDowell	Willie	San Francisco Department of Public Works	
	Bennett	Rod	San Francisco Fire Department	
	Whittle	Deborah	San Francisco Housing Authority	
Transit Planner	Lowe	James	San Francisco Municipal Railway	
Captain	Roth		San Francisco Police Department	
General Manager	Moran	Anson	San Francisco Public Utilities Commission	
	Conrad	Tom	San Francisco Redevelopment Agency	
			San Francisco Redevelopment Agency	SFRA Commissioners
Superin-tendent	Rojas	Waldemar	San Francisco Unified School District	
General Manager	Mullane	John	San Francisco Water Department	
Organizations				
	Walker	Charlie	African American Truckers Association	
	Jacobuitz	Bob	AIA San Francisco Chapter	
	Norman	Alvin	Al Norman Plumbing	
Chairperson	Zwierlein	Irene	Amah Tribal Band	
	Bach	Eve	ARC Ecology	
	Bach	Eve	ARC Ecology	
	Bloom	Saul	ARC Ecology	
	Bloom	Saul	ARC Ecology	
	Shirley	Chris	ARC Ecology	
	Mayer	Richard	Artists Equity Association	
	Hestor	Sue	Attorney at Law	
	Feinstein	Arthur	Audubon Society	Golden Gate Chapter

Title	Last	First	Organization	Branch
	Kirwan	John	Averbeck Environmental	
			B. Wilson & Associates	
	Taylor	Nancy	Baker & McKenzie	
			Bay Area Council	
	Crowder	Nia	Bay View Hunters Point Health Task Force	
	Herz	Michael	Baykeeper Society	
	Stark	Rebecca	Bayview-Hunters Point Crime Prevention Council	
	Sowells	Darlene J.	Bayview-Hunters Point Ecumenical Council	
	Gross	Shirley	Bayview-Hunters Point Foundation	Administration Offices
	Jackson	Espanola	Bayview Coordinating Council	
	House	Ralph	Bayview Hill Neighborhood Association	
	Webb	Olin	Bayview Hunters Point	CDC
	Pierce	Karen	Bayview Hunters Point Democratic Club	
	McCoy	Harold	Bayview Merchants Association	
	Westbrook	Gwendoly n	Black Leadership	
	Dyett	Michael	Blayney-Dyett	
			BP Builders Exchange	
	Daimond	Susan R.	Brobeck, Pheleger, Harrison	
	Madison	Scott	Businesses of Hunters Point Shipyard	
Executive Director	Davis	George W.	BVHP Multipurpose Sr. Services, Inc.	
	Togia	Lorraine	BVHP Multipurpose Sr. Services, Inc.	
	Robinson	Alma	CA Lawyers for the Arts	
	Williams	Alfred	CAC Consultant	
Chair	Jones	Shirley	Caheed Child Care Center	
	Cahill	Jay	Cahill Contractors, Inc.	
			California Environmental Trust	
	Sigg	Jake	California Native Plant Society	Yerba Buena Chapter
	Rhine	Bob	Capital Planning Department	UCSF
	Buxton	Marti	Catellus	
	Noordzij	Duco	CBE	
	Thomas	Mike	CBE	
	Chang	Pamela	CBE / SAPER!	
	Dale	Marcia	CDA Expert Network	
	LeWinter			
	Lester	Carol	Chicago Title	
	Soule	Ken	Chickering & Gregory	
			Chinatown Resource Center	
	Marmer	Jeff	Coalition for Better Wastewater Solutions	
	Murphy	Dorice	Coalition For San Francisco Neighborhoods	
	Beeras	James	Coalition on Homelessness	

Title	Last	First	Organization	Branch
	Purcell	Dennis	Coblentz, Cahen, McCabe and Breyer	
	Purcell	Dennis	Coblentz, Cahen, McCabe and Breyer	
	Gendel	Neil	Consumer Action	
	Welch	Calvin	Council of Community Housing Organizations	
	Farrell	Lawrence	Cushman Wakefield of California, Inc.	
	Stiefvater	Wayne	Cushman Wakefield of California, Inc.	
Reverend	Hawkins	Cordell	Double Rock Church	
			Downtown Association of San Francisco	
			EIP Associates	
			Environmental Science Associates, Inc.	
			Farella, Braun & Martel	
State Coordinator	Stevens	Doug	Food and Fuel Retailers For Economic Equality	
	Platt	Mrs. Bland	G. Bland Platt Associates	Historic Preservation Consultants
	Gordon	Peter	Gensler and Associates	
	Vettel	Steven L.	Gladstone & Vettel, Attorney at Law	
	Eng	Anne Lee	Golden Gate University	School of Law
	Eng	Anne Lee	Golden Gate University	School of Law
	Crow	Paula	Goldfarb & Lipman	
	LeStrange	Eric	Greenwood Press, Inc.	
			Gruen, Gruen & Associates	
	Freund	Frederic	Hanford Freund & Co.	
	Smith	Reuben	Hunters Point Boys and Girls Club	
			Hunters Point Community Youth Park	
	Viera	Julia	Hunters Point Homeowners Association	
	Middleton	Julia	Hunters Point Recreation Center	
	Hardin	Heidi	Hunters Point Shipyard Artists Association	
	Hope	Linda	Hunters Point Shipyard Artists Association	
Chairperson	Sayer	Ann Marie	Indian Canyon Mutsun Band of Costanoan	
Executive Director	Logan	Gaylon	Infusion One	
	Fox	Jill	Innes Avenue Coalition,	ARTS Democratic Club
	Friesema	H. Paul	Institute for Policy Research	Northwestern University
	Edwards	Vida	Jackie Robinson Garden Apartments	Bayview Hunters Point
			Jon Twichell Associates	
	Hoffman	Elliot	Just Desserts	

Title	Last	First	Organization	Branch
	Vargo	Jan	Kaplan/McLaughlin/Diaz	
	Kern	Douglas	Kern Mediation Group	
	Bertone	Don	Little Hollywood Improvement Association	
			Mariners Village Homeowners Association	
	Maxwell	Sally	Maxwell & Associates	
			McKinnon Avenue Community Club	
	Tone	Jerry	Montgomery Capital Corporation	
	Reid	Douglas	Moran Heights Homeowners Association	
	Herber	Jacob	Morrison & Foerster	
Chairperson	Cambra	Rosemary	Muwekma Indian Tribe	
	Sneed	Regina	National Lawyers Guild	
			Natural Resources Defense Council	
	Murray	Samuel A.	New Bayview Committee	
	Govender	Manjala	New HP Homeowners Assoc.	
	Nichols	Louise	Nichols-Berman	
	Galvan	Andrew	Ohlone Group	
	Kehl	Jakki	Ohlone Group	
	Marquis	Kenneth	Ohlone Group	
	Orozco	Patrick	Ohlone Group	
	Rodriguez	Ella Mae	Ohlone Group	
	Yamane	Linda G.	Ohlone Group	
Father	Ullery	Kirk	Our Lady of Lourdes	
	Hardee	Will	Pacific Gas & Electric Company	
			Page & Turnbull	
	Zeller	Marie	Patri-Burhage-Merken	
	Siems	Marilyn L.	Pilsbury, Madison & Sutro	
	Root	**Gloria**	**Planning Analysis & Development**	
	Gray	Tony	Precision Transport	
	Jones	Reverend Calvin	Providence Baptist Church	
	Bass	Peter	Ramsay/Bass Interest	
	Law	Sally Ann	RAND	
	Hellen	Roy	Reimer Associates	
	Holmes	Marc	Restoring the Bay Campaign	
	Reuben	James	Reuben & Alter	
			Rockerfeller & Associates Realty L.P.	
	Foster	Thomas N.	Rothschild & Associates	
	Livermore	Richard	Royal Lepage Commercial Real Estate Services	
	Lantzberg	Alex	SAEJ	
	Caplan	**Leslie**	**San Francisco Baykeeper**	**Clean Waterfront Project**
	Lozeau	Michael	San Francisco Baykeeper	
Executive Director	Casey	Donna	San Francisco Beautiful	

Title	Last	First	Organization	Branch
	Smith	Stanley	San Francisco Building & Construction Trades Council	
			San Francisco Chamber of Commerce	
	Christensen	Pat	San Francisco Council of District Merchants	
	Brittan	Georgia	San Francisco for Reasonable Growth	
	Allman	Richard	San Francisco Housing & Tenants Council	
	Johnson	Walter	San Francisco Labor Council	
	Lucas	Lorraine	San Francisco League of Neighborhoods	
	Dutra	Louise	San Francisco Organizing Project	
	Chappel	James	San Francisco Planning and Urban Research Association	
	Frazier	Rochele	San Francisco Senior Escort Program	
	Kilroy	Toni	San Francisco Tomorrow	
	Miller	Mary Ann	San Francisco Tomorrow	
	Morrison	Jane	San Francisco Tomorrow	
	Tony Kilroy	Jennifer Clary /	San Francisco Tomorrow	
	Mix Jr.	George	San Francisco Urban League	
	Nakatani	Keith	Save San Francisco Bay Association	
	Loftis	Sharian D.	SECF	
			Sedway & Cooke Associates	
	Washington	Osceola	Senior Citizen Bayview	
Executive Director	Nuru	Mohammed	SF League of Urban Gardeners	
	Morishita	Leroy	SFSU Admin. Plan	
	Kremer	Dave	Shartsis Freise & Ginsburg	
	Billote	Bill	Shipyard Tenants Steering Committee	
	Wright	Patricia	Shoreview Resident Associate	
			Sierra Club	San Francisco Bay Chapter
			Sierra Club	San Francisco Group
	Kriken	John	Skidmore, Owings & Merrill	
	Alschuler	Karen	SMWM	
	Lewis	Olive	Solem & Associates	
	Pitcher	Alex	South Bayshore CDC	
	Browning	Sy-Allen	South East Economic Group (SEED)	
	Lantsberg	Alex	Southeast Alliance for Environmental Justice (SAEJ)	
	Wilson	Claude	Southeast Alliance for Environmental Justice (SAEJ)	
	Brown	Bernice	Southeast Community College	
	Garlington	Ethel	Southeast Community Facility	
	Palega	Sulu	Southeast Community Facility Commission	

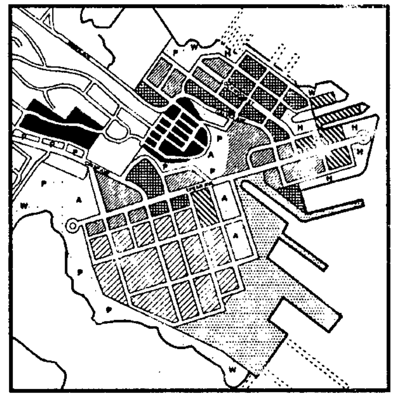
Title	Last	First	Organization	Branch
Center Director	Selmar	Cynthia	Southeast Health Center	
			Square One Film & Video	
	Tandler	Robert S.	Steefel, Levitt & Weiss	
	Bardis	John	Sunset Action Committee	
			Sustainable San Francisco	
	Witherspoon	Terry	Tetra Tech, Inc.	180 Howard Street, Suite 180
Executive Director	Bahlman	David	The Foundation for San Francisco's Architectural Heritage	
			The Jefferson Company	
	Legallet	Robert	The Normandy Associates	
	Jones	Henrietta	Third Street Task Force	
	Lezama	Glen	Union Bank	
	Dominski	Tony	West Edge Design	
	Tatum	Carol S.	Youth Community Developers	
Individuals				
	Aguirre	Ena	Bay View Hunters Point Advocacy	
	Allan	Peter		
	Arlington	Ethel		
	Autry	James		
	Banks	Jesse		
	Bauer	Lisa		
	Beck	Albert		
	Bell	Willie		
	McDowell			
	Burgess	Ollie		
	Choy Ong	Cynthia		
	Cincotta	David		
	Daniels	Michelle		
	Dominski	Ahna		
	Ellis	Janet		
	Ford	Theresa L.		
	Ford	Theodis		
	Fox	Jill		
	Frazier	Rochelle		
	Gaudain	Silk		
	Harris	Michael		
	Havey	Tom		
	Hayes	Ellen		
	Henry-Ellis	Michelle		
	Hines	Toni		
	Huggins	Karen		
	Jackson	David E.		
	James	Wedrell		
	Jones	Alvin		
	Jones	Henrietta		
	King	Leroy		c/o ILWU
	LaMell	Anthony		
	Lewis	Keith		
	Mackin	Edward		

Title	Last	First	Organization	Branch
	Madison	Scott		
	Maxwell	Sophenia		
	McCoy	Ilean		
	McDaniels	Carolyn		
	Miller	Cliff		
	Mousseaux (Mcleod)	Jenny		
	O'Neill	Francis J.		
	Oertel	Diana		
	O'Neill	Frank		
	Papazian	Hali		
	Phillips	James		
	Pierce	Karen		
	Reed	Judy		
	Richardson	Linda		
	Sanger, Esq.	John		
	Sims	Willa		
	Suet Barkley, Esq.	Alice		
	Thibeaux, Jr.	Leon		
	Tui	Manuma		
	Ventresca	Joel		
	Vincent	Dorris M.		
	Walker	Shellie		
	Washington	Caroline		
	Weicker	Steven		
	White	Bruce		
	White	Gwenda		
	White III	Nathaniel		
	Willette	Eunice		
	Williams	Jessie		
	Yamaguchi	Lori		
Newspapers				
			Asian Week	
			Associated Press	
			Bay City News Service	
	Ratcliff	Mary	Bayview Newspaper	
			Chinese Times	
			El Bohemio News	
			International Daily News	
			Korea Central Daily News	
			Nichi Bei Times	
			Philippine Examiner Today	
			Potrero View Newspaper	
			San Francisco Bay Guardian	
			San Francisco Bay Times	
			San Francisco Business Times	
	King	John	San Francisco Chronicle, Press Office	
	Adams	Gerald	San Francisco Examiner	

Title	Last	First	Organization	Branch
	Nguyen	Daisy	San Francisco Independent	
	Wilcox	Linda	San Francisco Independent	
			San Francisco Weekly	
			The New Fillmore Newspaper	
	Washington	Huel	The Sun Reporter	
			The Tenderloin Times	
Libraries				
	Wingerson	Kate	Government Documents	San Francisco Main Public Library
			Government Publications Department	San Francisco State University
			Hastings College of Law - Library	
			San Francisco Public Library	Ann E. Waden Branch
			Stanford University Libraries	Johnson Library of Government Documents
			UC Berkeley	Institute of Government Studies

Appendix B

Supporting Technical Information



CONTENTS PAGE

B SUPPORTING TECHNICAL INFORMATION

Transportation, Traffic, and Circulation B-1

Technical Memorandum: Future Baseline Traffic Growth B-19

Record of Non-Applicability B-29

Air Quality B-30

Letter of Agreement for Consistency Determination B-72

Memorandum of Agreement B-75

Navy Tenant Hazardous Material Activities, 1997 Tenant Survey B-84

Summary of Installation Restoration Program and Facility-Wide Utility Sites B-91

Plant, Bird, and Animal Species at Hunters Point Shipyard B-99

Technical Summary of Hunters Point Shipyard Real Estate Market Projections (Sedway & Associates, 1995) B-107

Level of Service Definitions

Signalized Intersections

Table B-1 presents the signalized intersections LOS definitions. LOS A indicates free-flow conditions with short delays, while LOS indicates congested conditions with extremely long delays. LOS A, B, C, and D are considered excellent to satisfactory service levels, LOS E is undesirable, and LOS F conditions are unacceptable. Operations at signalized intersections were evaluated using the *1985 Highway Capacity Manual (1994 Update)* operations methodology for intersection delay, outlined in Chapter 9.

TABLE B-1
Signalized Intersection Level of Service Definitions

Level of Service	Typical Delay (sec/veh)	Typical Traffic Condition
A	≤ 5.0	**Insignificant Delays:** No approach phase is fully utilized and no vehicle waits longer than one red indication.
B	5.1 - 15.0	**Minimal Delays:** An occasional approach phase is fully utilized. Drivers begin to feel restricted.
C	15.1 - 25.0	**Acceptable Delays:** major approach phase may become fully utilized. Most drivers feel somewhat restricted.
D	25.1 - 40.0	**Tolerable Delays:** Drivers may wait through more than one red indication. Queues may develop but dissipate rapidly, without excessive delays.
E	40.1 - 60.0	**Significant Delays:** Volumes approaching capacity. Vehicles may wait through several signal cycles and long queues of vehicles form upstream.
F	> 60.0	**Excessive Delays:** Represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.

Sources: *Highway Capacity Manual*, Special Report No. 209, Transportation Research Board, 1985, (Updated 1994); *Interim Materials on Highway Capacity*, Circular 212, Transportation Board, 1980.

Unsignalized Intersections

A different methodology was used to analyze operations at unsignalized intersections with minor street control (i.e., a stop sign). Operations at the unsignalized intersections were evaluated using the *1985 Highway Capacity Manual (Updated 1994)* methodology for intersection delay, outlined in Chapter 10. LOS for unsignalized intersections ranges from LOS A, which is generally free-flow conditions with easily made turns by the minor street traffic, to LOS F, which indicates very long delays for the minor street traffic. Table B-2 presents the LOS definitions for Two-Way Stop controlled intersections.

TABLE B-2
Two-Way Stop Controlled Intersection Level of Service Definitions

Level of Service	Average Total Delay (seconds/vehicle)	Typical Traffic Condition
A	0 - 5	Little or no delay.
B	5.1 - 10	Short traffic delays.
C	10.1 - 20	Average traffic delays.
D	20.1 - 30	Long traffic delays.
E	30.1 - 45	Very long traffic delays.
F	> 45	*

Source: *Highway Capacity Manual*, Special Report No. 209, Transportation Research Board, 1985, Updated 1994.

* When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improvement to the intersection.

All-Way Stop controlled intersections were analyzed using the *Transportation Research Board, Circular 373* analysis methodology, which estimates the delay for each roadway approach based upon the intersection geometry and the turning movements at the intersection. The LOS is determined based upon average vehicle delay. Table B-3 presents the LOS definitions for All-Way Stop controlled intersections.

TABLE B-3
All-Way Stop Controlled Intersection Level of Service Definitions

Level of Service	Typical Delay
A	≤ 5.0
B	5.1 - 10.0
C	10.1 - 20.0
D	20.1 - 30.0
E	30.1 - 45.0
F	≥ 45.0

Source: Transportation Research Board, Circular 373.

TABLE B-4
Existing Freeway Volumes

Location	A.M. Peak Hour (8:00 to 9:00 A.M.)	P.M. Peak Hour (5:00 to 6:00 P.M.)
I-80/Bay Bridge west of Treasure Island/ Yerba Buena Island	18,400	17,420
U.S. 101 at the San Francisco/San Mateo County line	13,450	12,600
I-280 south of U.S. 101	10,850	12,250

Source: Caltrans hourly traffic counts, 1994.

TABLE B-5
Freeway Ramp Volumes

Ramp	Volumes (Veh./Hour)	
	A.M. Peak (7:00 to 9:00 A.M.)	P.M. Peak (4:00 to 6:00 P.M.)
U.S. 101 Ramps:		
NB off at Third St.	1,875	860
NB On an Bayshore Blvd./Third St.	620	490
SB Off at Third St.	735	715
SB On at Third St.	710	1,560
NB On at Cesar Chavez St.	460	490
SB Off at Cesar Chavez St.	750	200
I-280 Ramps:		
NB On at Indiana St.	1,210	1,420
SB Off at Pennsylvania Ave.	560	800
NB Off at Cesar Chavez St.	525	335

Source: Korve, 1996.

TABLE B-6
Level of Service – HPS Intersections

Intersection	Control Type	A.M. Peak Hour		P.M. Peak Hour	
		Delay (secs.)	LOS	Delay (secs.)	LOS
Innes Avenue / Donahue Street	Signal	0.2	A	0.2	A
Crisp Avenue / Spear Avenue	Two-Way Stop[1]	n/a	n/a	n/a	n/a
Crisp Avenue / I Street	Two-Way Stop	n/a	n/a	n/a	n/a
Galvez Avenue / Donahue Street	Two-Way Stop	3.3	A	2.9	A
Lockwood Street / Donahue Street	Two-Way Stop[2]	3.5	A	3.5	A
Lockwood Street / Spear Avenue	Two-Way Stop	2.7	A	2.7	A
Galvez Avenue / Spear Avenue	All-Way Stop[3]	n/a	n/a	n/a	n/a

Source: Korve Engineering, Inc., 1996.

[1] This intersection is currently an uncontrolled intersection. For analysis purposes, a Two-Way Stop controlled intersection was assumed.
[2] This intersection is currently a Three-Way Stop controlled intersection. For analysis purposes, an All-Way Stop controlled intersection was assumed.
[3] Unsignalized intersection delay and LOS presented for minor street movement.

TABLE B-7
Level of Service – City Intersections Off HPS

Intersection	Control Type	A.M. Peak Hour		P.M. Peak Hour	
		Delay (secs.)	LOS	Delay (secs.)	LOS
Third Street / Evans Avenue	Signal	17.8	C	16.2	C
Third Street / Cargo Way	Signal	18.8	C	11.2	B
Third Street / Cesar Chavez Street	Signal	12.7	B	14.3	B
Evans Avenue / Cesar Chavez Street	Signal	24.0	C	39.4	D
Third Street / Carroll Avenue	Signal	5.9	B	5.9	B
Third Street / Gilman Avenue	Signal	11.7	B	9.7	B
Third Street / Palou Street	Signal	11.2	B	10.0	B
Jennings Street / Evans Avenue*	Two-Way Stop	6.0	B	8.0	B
Evans Avenue / Napoleon & Toland**	Signal	6.8	B	6.7	B

Source: Korve Engineering, Inc., 1996.
* Unsignalized intersection - minor street movement delay and LOS
** This intersection was recently signalized

TABLE B-8
Percent Truck Traffic at Selected Off-Site Intersections

Intersection	Approach	A.M. Peak	P.M. Peak
Third St./Palou St.	NB	6.9%	5.3%
	SB	10.6%	5.4%
	EB	12.8%	8.7%
	WB	14.7%	11.2%
	Total	9.5%	6.3%
Third St./Revere St./Bay View St.	NB	6.7%	5.3%
	SB	12.6%	7.1%
	EB	4.3%	4.5%
	EB	2.4%	0.0%
	WB	8.3%	2.1%
	Total	8.5%	5.8%
Innes Avenue/Donahue St.	NB	0.0%	6.7%
	SB	22.7%	3.6%
	EB	3.6%	4.5%
	Total	6.7%	4.3%

Source: Korve Engineering, Inc., 1996.

Earthquake Retrofit Activity On I-280

Interstate Highway 280 (I-280) is generally a north/south freeway, connecting San Francisco and San Jose. South of the interchange with U.S. 101, I-280 is a four- to six-lane freeway. The 1.5 mile (2.4 km) section of I-280 between U.S. 101 and Twenty-fifth Street was damaged in the October 1989 Loma Prieta earthquake and was closed for retrofit and reconstruction. Under 1993 conditions, this section contained one lane in each direction on the upper deck, with a temporary off-ramp connection from U.S. 101 northbound, but without the associated link to southbound U.S. 101.

The following changes were made to this section of I-280 since 1993:

- Early in 1994, the northbound U.S. 101 ramp connection to I-280 south and the northbound I-280 ramp connector to southbound U.S. 101 were closed for seismic retrofitting, and the affected traffic was temporarily diverted to the adjacent local streets.

- In the summer of 1994, two lanes on the lower deck of I-280 (northbound direction), the northbound Cesar Chavez Street off-ramp, and an additional lane on southbound I-280 were reopened.

- In December 1994, a temporary off-ramp connection from northbound U.S. 101 to northbound I-280 was opened. At the same time, a one-lane temporary connection from I-280 westbound to U.S. 101 southbound was reopened. As of mid-1995, I-280 east of U.S. 101 has three lanes in the northbound direction (two on the lower deck and one on the upper deck) and two lanes in the southbound direction (upper deck). The I-280/U.S. 101 interchange is being seismically retrofitted with temporary ramp connections between U.S. 101 North and I-280 South, and local street detours between I-280 North and U.S. 101 South.

Regional Transportation Service

Service From the San Mateo Peninsula and Points South

San Mateo County Transit District (SamTrans): No direct service to HPS is provided by SamTrans. SamTrans is the primary public transit operator for San Mateo County. The service area stretches from northern Santa Clara County to downtown San Francisco. SamTrans provides seven routes that serve downtown San Francisco and two routes that serve the San Francisco State University on the west side of San Francisco. SamTrans provides minimal service within San Francisco along the Mission and Market street corridor. Each weekday, 5,000 to 6,000 people ride the SamTrans express buses to downtown San Francisco. SamTrans riders must transfer to San Francisco Municipal Railway #19 (southbound direction) at Eighth and Mission streets for service into HPS.

Travel times from HPS to major cities within the San Francisco Bay Area, as contained in the updated 1998 MTC model, are given below:

Zone 1	Zone 2	Congested Travel Time (min)*	Free Flow Travel Time (min)*
Hunters Point	San Francisco Downtown	15/14	14/14
Hunters Point	Oakland	28/40	21/21
Hunters Point	Walnut Creek	43/59	36/37
Hunters Point	San Mateo	27/29	26/26
Hunters Point	San Rafael	43/55	36/38
Hunters Point	San Jose	57/59	54/54

*Travel time from zone 1 to zone 2/Travel time from zone 2 to zone 1
Notes:
Congested times reflect the congested A.M. period.
Free flow travel times reflect the uncongested travel times (e.g., 2:00 P.M.)

CalTrain: No direct service to HPS is provided by CalTrain. CalTrain provides commuter rail service between Santa Clara County and San Francisco. Service is operated through a joint powers arrangement with San Francisco, San Mateo, and Santa Clara Counties. The San Francisco terminal is at Fourth and Townsend streets, approximately 1.5 miles (2.4 km) from the downtown core, with service down the Peninsula to San Jose, and through service to Gilroy. CalTrain connects with MUNI local and express buses at the Fourth and Townsend station.

A CalTrain station in the South Bayshore area is two blocks west of Third Street near the intersection of Paul Avenue and Gould Street. Eight of the 29 weekday northbound trains destined for downtown San Francisco stop at the Paul Avenue station, 3 during the morning peak and 5 during the evening peak. Southbound service has 9 of the 31 trains stopping at this station, 3 during the morning peak and 6 during the evening peak. MUNI cross-town route #29 Sunset stops at the Paul Avenue station. Connection to HPS requires two additional transfers, to the #15 Third line and from that bus to the #19 at Evans.

Bay Area Rapid Transit (BART): The MUNI #19 line serves as a direct access link between HPS and the Civic Center BART station. BART provides regional transit services, connecting San Francisco with Daly City, Concord, Richmond, and Fremont. Extensions to the existing system are being constructed to the San Francisco International Airport. Approximately 123,000 riders travel to San Francisco from the East Bay each day on BART. In addition, another 69,000 West Bay riders travel solely with the Daly City/San Francisco portion of the system.

Service from East and North Bay

Alameda-Contra Costa Transit District (AC Transit): There is no direct service to HPS by AC Transit. AC Transit is the primary bus transit operator for the East Bay, including Alameda and Contra Costa counties. AC Transit operates transbay routes into the San Francisco Transbay Terminal. Most of the transbay service is designed for commuters and operates during peak periods only. However, there are 3 routes that operate 22-hours per day and 1 route that provides 24-hour service. As of 1991, average weekday ridership for the transbay routes was 17,700.

Golden Gate Transit: There is no direct service to HPS by Golden Gate Transit. Serving riders from Marin and Sonoma Counties, Golden Gate Transit brings more than 17,000 riders to San Francisco each weekday over a system of 19 commute express and 8 local routes. Most routes serve either the Van Ness corridor/Civic Center area or the Financial District (downtown San Francisco). Major transfer points to other operators can be made at the Transbay Terminal and the Ferry Building. Local routes provide late night service to San Francisco. Golden Gate Transit also operates ferry service from the San Francisco Ferry building to two cities in Marin County–Larkspur and Sausalito. Golden Gate Transit riders would access HPS most directly by transfer from a Civic Center bound bus to the #19 at Hyde Street and Golden Gate Avenue.

Bay Area Ferries

There is no direct ferry service to HPS. Ferry service is provided between Vallejo, Alameda, Oakland, Tiburon, Larkspur, and Sausalito, and downtown San Francisco. This service is provided by the Blue and Gold fleet and Golden Gate Transit.

Impact Methodology for Transportation, Traffic and Circulation

This section presents the methodology used to determine future travel demand for the Proposed Reuse Plan and the Reduced Development Alternative. In addition, the regional and local transportation improvements for future conditions have been identified, and a regional screenline analysis provided.

Travel Demand Methodology

Land Use

The proposed land uses for HPS consist of six different land use categories!mixed use, research and development, industrial, cultural, residential, and open space. Land use data (by square footage or acreage) were provided by the San Francisco Planning Department on a block-by-block basis and were disaggregated by land use type. The transportation analysis based on projected market demand translated into building square footage and employment.

Trip Generation

Table B-9 summarizes the trip generation rates used to estimate project-generated traffic. Project trip generation was based on information obtained from various sources—the *San Francisco Guidelines for Environmental Review: Transportation Impacts, July 1991, the Citywide Travel Behavior Survey 1992 (CTBS2),* the Institute of Transportation Engineers (ITE), *Trip Generation Manual,* 5th Edition, and the *San Diego Traffic Generators.* In addition, due to the mixed-use nature of the Proposed Reuse Plan, some people would visit more than one destination during their trip at the site. These trips are considered linked-trips.

The mixed-use trip generation rate was a composite rate derived from various rates available in the *San Francisco Guidelines,* such as general convenience, showrooms, service, and distribution. Although the residential trip generation rate was obtained from the *San Francisco Guidelines,* only a P.M. peak hour rate was available. To derive an A.M. peak hour trip generation rate for residential uses, a relationship between A.M. and P.M. peak hour rates was developed based on rates published in the *San Diego Traffic Generators.*

The trip generation rates presented in Table B-9 represent both worker and visitor trips for each land use category. To determine the percentage of workers versus visitors, work/non-work splits were obtained from the *San Francisco Guidelines.* Directional percentages were also obtained from the *San Francisco Guidelines* to estimate the number of inbound and outbound trips that would be generated by the Proposed Reuse Plan and the Reduced Development Alternative.

TABLE B-9
Trip Generation Rates

Land Use	Daily (trips/1,000 gsf[4])	A.M. Peak (trips/1,000 gsf)	P.M. Peak (trips/1,000 gsf)
Mixed-Use	45.50	2.03	2.03
Research & Development[5]	Ln(T)=0.799Ln(X)+3.238	Ln(T)=0.866Ln(X)+0.924	Ln(T)=0.821Ln(X)+1.118
Industrial[5]	T=4.949(X)+7.65.587	Ln(T)=0.818Ln(X)+0.916	T=1/[(1.027/X)+0.00064]
Cultural[6]			
Museum:	50.00	0.00	9.60
Small Performing Arts:	42.00	0.00	4.60
Service:	15.20	0.00	3.70
Educational	12.87	2.21	1.06
Residential[7]	7.50	1.04	1.30
Open Space[8]			
Active:	50.00	2.00	4.00
Passive:	20.00	0.80	1.60
Hard Surface:	20.00	0.80	1.60

Source: Korve Engineering, Inc., 1996.

Table B-10 presents a comparison of the A.M. and P.M. peak hour person-trip generation proposed by travel mode for the Proposed Reuse Plan and the Reduced Development Alternative for 2010 and 2025. To estimate the number of transit and "other" trips ("other" mode includes taxi, limousine, tour bus, bicycle, motorcycle, and walk), appropriate mode split percentages were derived from the Year 2010 MTC regional travel demand model for the South Bayshore District, with adjustments to reflect recommended transit services to HPS. As shown in Table B-10, the Proposed Reuse Plan is estimated to generate approximately 5,375 person-trips during the A.M. peak hour and 6,055 person-trips during the P.M. peak hour by 2025 build-out conditions. In comparison to the Proposed Reuse Plan, it is estimated that the Reduced Development Alternative would generate approximately 3,235 fewer person-trips during the A.M. peak hour and 3,425 fewer person-trips during the P.M. peak hour by 2025.

[4] gsf = gross square feet
[5] ITE, Trip Generation Manual, formulas, where Ln = Logarithmic equation, T = trips, X = per 1,000 sq. ft. (92.9 sq. m).
[6] Assume that cultural land uses are generally closed during the A.M. peak period.
[7] Residential trip rates expressed in trips per dwelling unit.
[8] Open Space trip rates expressed in trips per acre.

TABLE B-10
Project Person-Trip Generation

Scenario	A.M. Peak Hour				P.M. Peak Hour			
	Vehicle-Person Trips[9]	Transit Trips	Other Trips[10]	Total Person-Trips	Vehicle-Person Trips[9]	Transit Trips	Other Trips[10]	Total Person-Trips
Proposed Reuse Plan:								
Year 2010	2,355	655	495	3,505	2,640	760	520	3,920
Year 2025	3,610	900	865	5,375	4,055	1,050	950	6,055
Reduced Development Alternative:								
Year 2010	880	220	220	1,320	1,000	250	240	1,490
Year 2025	1,430	320	390	2,140	1,750	390	490	2,630

Source: Korve Engineering, Inc., 1996.

Table B-11 summarizes the estimated A.M. peak hour (8 to 9 A.M.) and P.M. peak hour (5 to 6 P.M.) vehicle-trip generation (including autos and trucks) for the Proposed Reuse Plan and the Reduced Development Alternative. These estimates of the number of project-generated auto trips were based on auto percentages and vehicle occupancy rates (VORS) obtained from the City Planning Department.

TABLE B-11
Project Vehicle-Trip Generation

Scenario	A.M. Peak Hour		P.M. Peak Hour	
	Autos	Trucks	Autos	Trucks
Proposed Reuse Plan:				
Year 2010	1,395	80	1,630	50
Year 2025	2,090	180	2,450	110
Reduced Development Alternative:				
Year 2010	510	40	600	20
Year 2025	810	80	1,020	50

Source: Korve Engineering, Inc., 1996.

Trip Linkages

Due to the mixed-use nature of the Proposed Reuse Plan, most people would visit more than one destination during their trip at the site. These trips are considered linked-trips. For example, a visitor to a museum may also visit the retail uses at HPS before driving home. To account for these linked-trips, a 25 percent reduction was applied to the mixed-use and cultural land use rates presented in Table B-9. Studies have shown that the percentage of trips in a mixed-use linked development has a strong relationship to the percentage of commercial land uses within the area. Since there is a significant

[9] Vehicle-person trips are defined as the number of persons using automobile, carpool, and vanpool.
[10] "Other" mode includes taxi, limousine, tour bus, bicycle, motorcycle, and walking.

amount of commercial use identified in the Proposed Reuse Plan, the 25 percent reduction is appropriate.

Trip Distribution and Assignment

Table B-12 presents the trip distribution patterns assumed for the proposed project. Project trip distribution was derived from information obtained from the *Citywide Travel Behavior Survey (CTBS)* for Superdistrict 3 (Figure B-1). As shown in Table B-12, approximately 75 percent of the project trips destined to Superdistrict 3 travel from within San Francisco and the remaining 25 percent travel from the regions outside San Francisco. These distribution patterns were used as the basis for assigning the project trips to local streets in the study area. For the convenience of the local traffic impact model, project traffic was assigned to only major streets. Specific percentages were developed based on the appropriate travel times to HPS. In general, it was estimated that approximately 80 percent of the project traffic would access HPS via the North Gate, while the remaining 20 percent would use the South Gate.

TABLE B-12
Project Trip Distribution

Place of Residence	Percentage
San Francisco	74.4%
Superdistrict 1:	8.2%
Superdistrict 2:	10.2%
Superdistrict 3:	50.0%
Superdistrict 4:	6.0%
East Bay	7.8%
North Bay	2.7%
South Bay	15.1%

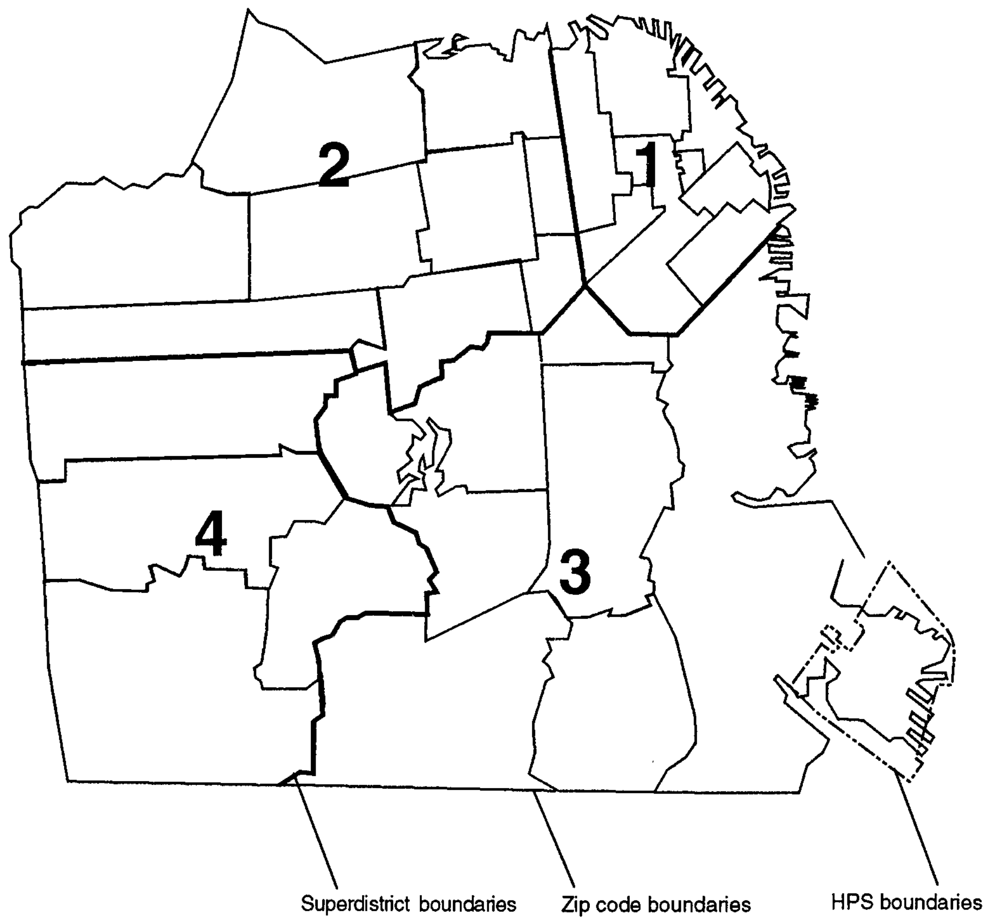
Source: *Citywide Travel Behavior Survey*, City and County of San Francisco, 1993b.

The MTC information was compared with the trip distribution patterns projected by the Year 2010 MTC regional travel demand model for the South Bayshore area. It was determined that the trip distribution patterns projected from the MTC model compare closely with the travel patterns derived from *CTBS* data. As such, the trip distribution patterns from the *CTBS* information were used in the transportation analysis.

Modal Split

Modal split information was derived from the Year 2010 MTC regional travel demand model for the South Bayshore area, with adjustments to reflect potential increase in Figure B-1, San Francisco Superdistrict boundaries transit services in the area. The *CTBS* mode split data for Superdistrict 3 were reviewed.

Since Superdistrict 3 includes many districts, such as South Bayshore, Potrero Hill, Mission, Eureka Valley, Glen Park, and Diamond Heights, the mode split data is greatly influenced by the transit ridership in the Mission Street corridor and, to a lesser extent, the Church and Market Street corridors. As such, modal split information directly taken from the *CTBS* would represent an overestimation of transit mode split for HPS.



LEGEND

- Superdistrict
- Zip code boundaries
- Hunters Point Shipyard

Source: City and County of San Francisco, 1993b.

Projects/ 141-15 HP EIR/EIS/HP figures 98/ 141-15 postal.fh7 7/10/98 DYU

Figure B-1: San Francisco Superdistrict Boundaries

Due to the regional aspect of the MTC travel demand model, the model does not specifically disaggregate HPS from the South Bayshore area. Furthermore, the MTC model assumes lower intensity development in the HPS area, and, therefore, potential increases in transit service to the site were not assumed in the model. As such, modal split information taken directly from the model would tend to underestimate transit capacity and ridership to HPS. To obtain a more realistic transit mode split percentage, data obtained from the Year 2010 MTC regional travel demand model was used as a basis. However, an adjustment factor was developed by modifying the out-of-vehicle travel times to reflect the potential improved total travel times, and modifications were made to the mode choice variables to account for changes in transit service (e.g., decrease in transit headways).

Table B-13 summarizes the mode split percentages obtained from the MTC travel demand model, while Table B-14 summarizes the mode split percentages used in the transportation analysis. The MTC home-based trip tables represent the "worker" percentages and the MTC non-home based work (i.e., non-home based, home-recreation, and home-shopping) trip tables represent the "non-worker" percentages. As shown in Table B-14, different mode choice percentages were used for workers and non-workers, since workers have different travel characteristics than non-workers visiting the project site. Mode choice percentages also vary between land use categories.

Earthquake Adjustment
The Loma Prieta Earthquake in October 1989 resulted in the closure of I-280 between U.S. 101 and the Mariposa ramps. Under 1993 conditions, this section of I-280 contained one lane in each direction on the upper deck, with a temporary off-ramp connection from U.S. 101 northbound, but without the associated link to southbound U.S. 101. The resulting changes to traffic circulation in the area caused shifts in traffic from the freeways to the Third Street corridor. As of mid-1995, I-280 east of U.S. 101 has three lanes in the northbound direction (two on the lower deck and one on the upper deck), and one lane in the southbound direction. For purposes of the transportation impact analyses, existing intersection turning movement count data (collected in November 1993 and November 1994) were adjusted to reflect the pre-earthquake conditions before future traffic growth rates were applied.

Background Traffic Growth
Future background traffic growth was developed using the 1990 and 2010 MTC regional travel demand model (MTCFAST-80/81). The model is based on forecasts of regional growth prepared by ABAG. The MTC travel model is composed of 721 Travel Analysis Zones (TAZ) for the nine-county San Francisco Bay Region. The TAZ is the basic geographic unit of a travel demand model system. Specific TAZs in the HPS vicinity are shown on Figure B-2.

The 2010 growth rate was developed by comparing the two MTC model scenarios to determine total growth between 1990 and 2010. This resultant growth (approximately 23 percent) was annualized and applied to the adjusted existing count data (pre-earthquake conditions) to derive 2010 traffic volumes. The 2025 growth rate was derived from a similar method, assuming a straight-line growth rate between 1990 and 2025. The total growth between 1993 and 2025 was determined to be approximately 47

TABLE B-13
MTC Travel Demand Mode Split Percentages

	Home-Based Work		Non-Home Based Work	
Direction	Auto	Transit	Auto	Transit
Non-Residential (Inbound)	89.7%	10.3%	91.5%	4.9%
Residential (Outbound)	74.2%	25.8%	85.2%	14.8%

Source: MTC Travel Demand Model, Korve Engineering, Inc., 1996.

TABLE B-14
Traffic Analysis Mode Split Percentages

Land Use	Worker			Non-Worker		
	Auto	Transit	Other	Auto	Transit	Other
Mixed-Use	72.7%	12.9%	14.3%	63.3%	11.6%	25.0%
R&D	72.7%	12.9%	14.3%	64.0%	11.6%	24.4%
Industrial	72.7%	12.9%	14.3%	64.0%	11.6%	24.4%
Cultural	72.7%	12.9%	14.3%	64.0%	11.6%	24.4%
Residential	58.6%	31.2%	10.2%	77.0%	17.0%	6.0%
Open Space	72.7%	12.9%	14.3%	63.3%	11.6%	25.0%

Source: MTC Travel Demand Model, *Citywide Travel Behavior Survey (City and County of San Francisco, 1993a and b)*, Korve Engineering, Inc., 1996.

Traffic count data under pre- and post-earthquake conditions at various locations within the study are were obtained from the San Francisco Department of Parking and Traffic. Roadways included Third Street, Cesar Chavez Street, Evans Avenue, Bayshore Boulevard, Oakdale Avenue, and Palou Avenue. Table B-15 summarizes the changes in traffic volumes between pre-earthquake and post-earthquake conditions. These percentages were used to derive adjustment factors that were then applied to post-earthquake conditions to develop pre-earthquake traffic volumes.

TABLE B-15
Earthquake Adjustments

Roadway	Direction	A.M. Peak Hour Adjustment	P.M. Peak Hour Adjustment
Third Street	Northbound	92%	32%
	Southbound	8%	78%
Cesar Chavez Street	Eastbound	10%	42%
	Westbound	15%	38%
Evans Avenue	Eastbound	-24%	-23%
	Westbound	23%	-3%

Source: Korve Engineering, Inc., 1996.

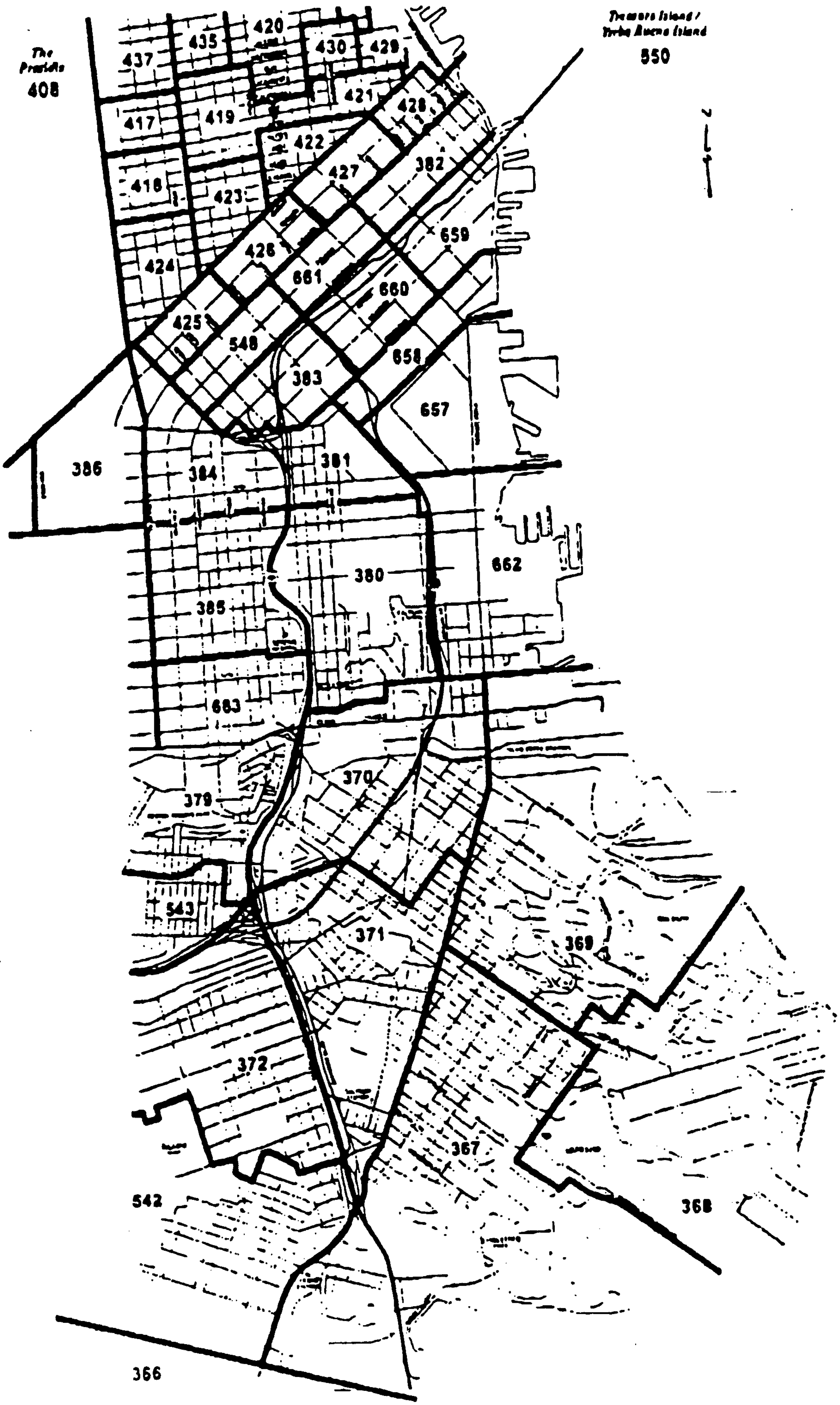


Figure B-2: MTC Traffic Analysis Zones

percent. After applying the adjustments to the existing count data to represent pre-earthquake conditions, the background growth percentages were then applied to these adjusted volumes to obtain future background traffic levels.

Regional and Local Transportation Improvements

The transportation facilities and services assumed to exist by 2010 and 2025 include those identified in the Regional Transportation Plan (RTP) for the nine-county San Francisco Bay Area, as identified by MTC. Specific assumptions in the vicinity of HPS include:

- The traffic analysis assumes that the earthquake retrofit on I-280 and its interchanges with U.S. 101 will be completed by 2010. No additional highway capacity is assumed to be provided to San Francisco.

- The RTP includes upgrades to the CalTrain system, but specific projects have not yet been identified. No substantial increase in transit service was assumed to be provided for future years.

- The transportation analysis assumes that some improvements on Cesar Chavez Street (formerly Army Street) will be completed by 2010. The Department of Parking and Traffic's Phase I improvements for Cesar Chavez Street include widening Cesar Chavez Street from four to six lanes between Pennsylvania Avenue and Third Street.

Regional Screenline Analysis

This section presents the methodology used in the screenline analysis for the regional freeway facilities. The analysis approach is presented first, followed by the methodology used to estimate future year conditions on the freeway screenlines.

Screenline Analysis

Persons traveling to and from HPS would use the regional freeway and bridge facilities that are found outside the study area, and would be part of the background growth in travel between San Francisco and other counties in the Bay Area. The analysis of the regional freeway and bridges was conducted using a screenline analysis.

A screenline is used to describe the magnitude of travel to/from San Francisco and to compare estimated travel demand with the capacities for a travel mode. Screenlines are hypothetical lines that would be crossed by persons traveling between San Francisco and other parts of the region. They are the measurement points for the freeway travel projects presented in the analysis.

In the screenline analysis, traffic volumes are compared with the general capacity to determine the v/c ratio. A v/c ratio is the volume of vehicles on a particular roadway divided by the available capacity of the roadway. The v/c ratio is a measure of capacity sufficiency, and a good indication of whether there is excess capacity on the facility to accommodate future traffic growth, or if improvements are needed to increase capacity or modify travel demand. A roadway operating at a v/c ratio of 1.00 is considered at capacity. A v/c ratio less than 1.00 indicates excess capacity.

Screenline Locations

For the HPS analysis, three screenline locations were evaluated:

- U.S. 101 at the San Mateo county line
- I-280 south of U.S.101
- I-80/Oakland Bay Bridge

Existing Conditions

Traffic volumes on the three regional screenlines were obtained from Caltrans to determine the traffic volumes on the freeway facilities that would be used to access HPS. Traffic volumes at U.S. 101 and I-280 screenline locations were obtained from Caltrans July 1993 and August 1993 data, respectively. Traffic volumes at the I-80/U.S. 101 Bay Bridge were obtained from the *Alternative to Replacement of the Embaracadero Freeway* and *Terminal Separator Structure DEIS/DEIS*, dated August 1995.

Future Year 2010 and 2025 Conditions

The regional MTC travel demand model was used to identify background traffic growth in the region for 2010 and 2025 conditions. The MTC model is based on forecasts of regional growth prepared by ABAG. Growth factors for future traffic conditions were developed by comparing the MTC travel demand output for 1990 and 2010. This resultant growth was annualized and applied to existing count data to derive 2010 traffic volumes. The 2025 growth rate was derived from a similar method, assuming a straight-line output between 1990 and 2025.

For U.S. 101 and I-280 screenlines and freeway ramps, total growth between existing conditions and 2010 was determined to be approximately 3 percent, while total growth to 2025 conditions was about 5 percent. These percentages were applied to existing volumes to estimate future cumulative traffic volumes at the regional screenlines. Growth rates on the I-80/Oakland-Bay Bridge screenlines were based on the analysis presented in the *DEIS/DEIS* for *the Alternative to Replacement of the Embarcadero-Freeway* and *Terminal Separator Structure*, August 1995. The travel demand estimates included in that analysis were also based on the regional MTC travel demand model. The resultant percentages were added to the existing traffic volumes at the I-80/Bay Bridge to determine the future cumulative traffic volumes at this location.

In general, total growth between existing conditions and 2010 ranged from 6 to 23 percent. During the A.M. peak hour, Bay Bridge traffic is anticipated to increase by 23 percent and 6 percent in the eastbound and westbound directions, respectively. During the P.M. peak hour, traffic volumes are anticipated to increase by 8.5 percent and 13.5 percent in the eastbound and westbound directions, respectively.

Traffic growth between existing conditions and 2025 conditions is anticipated to increase over 2010 conditions. During the A.M. peak hour, Bay Bridge traffic is anticipated to increase by 45 percent and 6 percent in the eastbound and westbound directions, respectively. During the P.M. peak hour, traffic volumes are anticipated to increase by 17 percent and 27 percent in the eastbound and westbound directions, respectively.

Technical Memorandum
Future Baseline Traffic Growth

The purpose of this technical memorandum is to analyze consistency between the Hunters Point Shipyard (HPS) EIS/EIR transportation analysis and three other major San Francisco projects undergoing environmental analyses in 1998. This memorandum serves as supporting technical material to EIS/EIR Section 4.1, Transportation, Traffic, and Circulation. The other three projects are:

- Mission Bay Subsequent EIR (DSEIR published April 11, 1998).
- Third Street Light Rail Transit (LRT) Project EIS/EIR (DEIS/EIR published April 3, 1998).
- Candlestick Point Stadium and Retail/Entertainment Center (on-going analysis).

The HPS EIS/EIR effort started in 1995. Following initiation of the HPS project, three other major environmental documents started: the Mission Bay Subsequent EIR in January 1997; the Third Street Light Rail Project DEIS/EIR in August 1996; and the Candlestick Point Stadium and Retail/Entertainment Center analysis in June 1997.

For these three 1997 analyses, 2015 was established as the future year for the transportation impact analysis methodology, compared to 2010 used in the HPS EIS/EIR. The impact analysis methodology for the other three projects included the following steps:

1. ABAG Projections '96 data were adjusted to specifically include several major new development proposals, such as the Treasure Island, HPS, and Mid-Market projects, to establish baseline conditions (herein referred to as "Adjusted ABAG Projections '96").
2. The proposed land use data for the Mission Bay and Candlestick Point Retail/Entertainment Center projects were manually added to thebaseline.
3. The MTC regional travel demand model was updated to include revised San Francisco growth forecasts.

For comparison purposes, the data listed below were obtained from the transportation analyses for the three projects (where applicable):

- Socioeconomic/land use input
- Roadway traffic volumes
- Intersection and freeway LOS
- Percent of traffic contributed by the HPS project at selected intersections

In addition, the implication of the following two conditions was also assessed.

- Traffic operations during the Candlestick Point Stadium and Retail/Entertainment Center project construction period.
- Traffic implications of the proposed Yosemite Slough bridge.

Socioeconomic/Land Use Inputs

Land use assumptions are the basis for future travel demand analysis and traffic impact analysis. Table B-16 presents a comparison of land use data used in each document. The HPS EIS/EIR and the other three environmental analyses used comparable databases. As shown in the table, the major difference in the land use data is the use of ABAG Projections '94 in the HPS EIS/EIR and the use of the Adjusted ABAG Projections '96 by the other three projects.

Table B-16
Comparison of Land Use Data for Future Conditions

Project	***Hunters Point EIS/EIR***	***Mission Bay Subsequent EIR***	***Third Street Light Rail Project DEIS/EIR***	***Candlestick Point Stadium and Retail/ Entertainment Center Analysis (on-going)***
Hunters Point Reuse Plan	Specifically considered	Included in the Adjusted ABAG Projections '96	Included in the Adjusted ABAG Projections '96	Included in the Adjusted ABAG Projections '96
Mission Bay Plan	Included in ABAG Projections '94 (Old Mission Bay Plan)	Specifically considered	Included in the Adjusted ABAG Projections '96	Included in the Adjusted ABAG Projections '96
Candlestick Point Stadium and Retail/ Entertainment Center Project	Not explicitly included in Projections '94	included in the Adjusted ABAG Projections '96	Included in the Adjusted ABAG Projections '96	Specifically considered
Background Growth	Included in ABAG Projections '94	Included in the Adjusted ABAG Projections '96	Included in the Adjusted ABAG Projections '96	Included in the Adjusted ABAG Projections '96

Table B-17 presents a comparison of ABAG Projections '94, ABAG Projections '96, and Adjusted ABAG Projections '96. As shown in the table, the HPS EIS/EIR assumed a Citywide total population of 819,000 and employment of 667,570 in 2010. The other three analyses used the Adjusted ABAG Projections '96, which included a Citywide total population of 819,942 and employment of 665,400 in 2015. While the HPS EIS/EIR did not use the same socioeconomic and land use database as the other three analyses, the difference in total population and employment between the HPS EIS/EIR and the other three analyses is not substantial (i.e., about 942 [0.115 percent] fewer persons and 2,170 [0.325 percent] more jobs). This magnitude of difference is negligible, when considered in the context of total Citywide housing and employment data. However, this difference could be noticeable at the local level, especially if the growth is concentrated in a small geographic area. Therefore, a comparison of local traffic volumes projected in these analysis is warranted.

Table B-17
Comparison of ABAG Projections

Region	ABAG Projections '94		ABAG Projections '96		Adjusted ABAG Projections '96	
	2010 Population	2010 Employment	2015 Population	2015 Employment	2015 Population	2015 Employment
Total San Francisco	819,000	667,570	795,800	638,670	819,942	665,400

Roadway Traffic Volumes

Table B-18 compares future traffic volumes for key roadway segments near these major developments. The Mission Bay Subsequent EIR traffic analysis does not include an analysis of intersections along Third Street south of Mariposa Street. Therefore, no comparison with the Mission Bay project is provided.

Table B-18
Comparison of Roadway Traffic Volumes for Future Cumulative Conditions Weekday P.M. Peak Hour

Roadway Segment	Hunters Point EIS/EIR (2010)	Third Street Light Rail Project DEIS/EIR (2015)	On-going Candlestick Point Stadium and Retail/ Entertainment Center Analysis (2015)
Third Street, north of Evans Avenue	1,256	1,084	1,259
Third Street, south of Evans Avenue	1,248	1,091	1,129

The Candlestick Point Stadium and Retail/Entertainment Center project would add approximately 8 percent of its total traffic to Third Street, with about 80 percent using Harney Way for access, due to its direct access to U.S. 101, and the remaining 12 percent using other east-west streets for access. The above comparison shows that the HPS

EIS/EIR analysis is conservative in that it assumes a higher volume on Third Street in 2010 than either of the other analyses assumed for 2015.

Intersection and Freeway Operating Conditions

Intersection LOS

Figure B-3 illustrates the locations of the HPS project site and the intersections analyzed by the Third Street Light Rail Project DEIS/EIR and the on-going traffic analysis for the Candlestick Point Stadium and Retail/Entertainment Center project.

Table B-19 presents the results of future P.M. peak hour LOS for key intersections along Third Street from the HPS, Third Street LRT, and Candlestick Point projects. The table shows that LOS for the Third Street intersections are comparable. The only exception is the Third Street/Cesar Chavez intersection, which shows LOS C in the HPS EIS/EIR and LOS F in the other two documents. The reason for this discrepancy is that the HPS EIS/EIR did not originally account for the reduction in the number of traffic lanes on Third Street proposed by the Third Street LRT project. Section 4.1 of this EIS/EIR has been revised to reflect this proposed reduction of travel lanes, so that under future traffic conditions, the Third Street/Cesar Chavez intersection operates at LOS F.

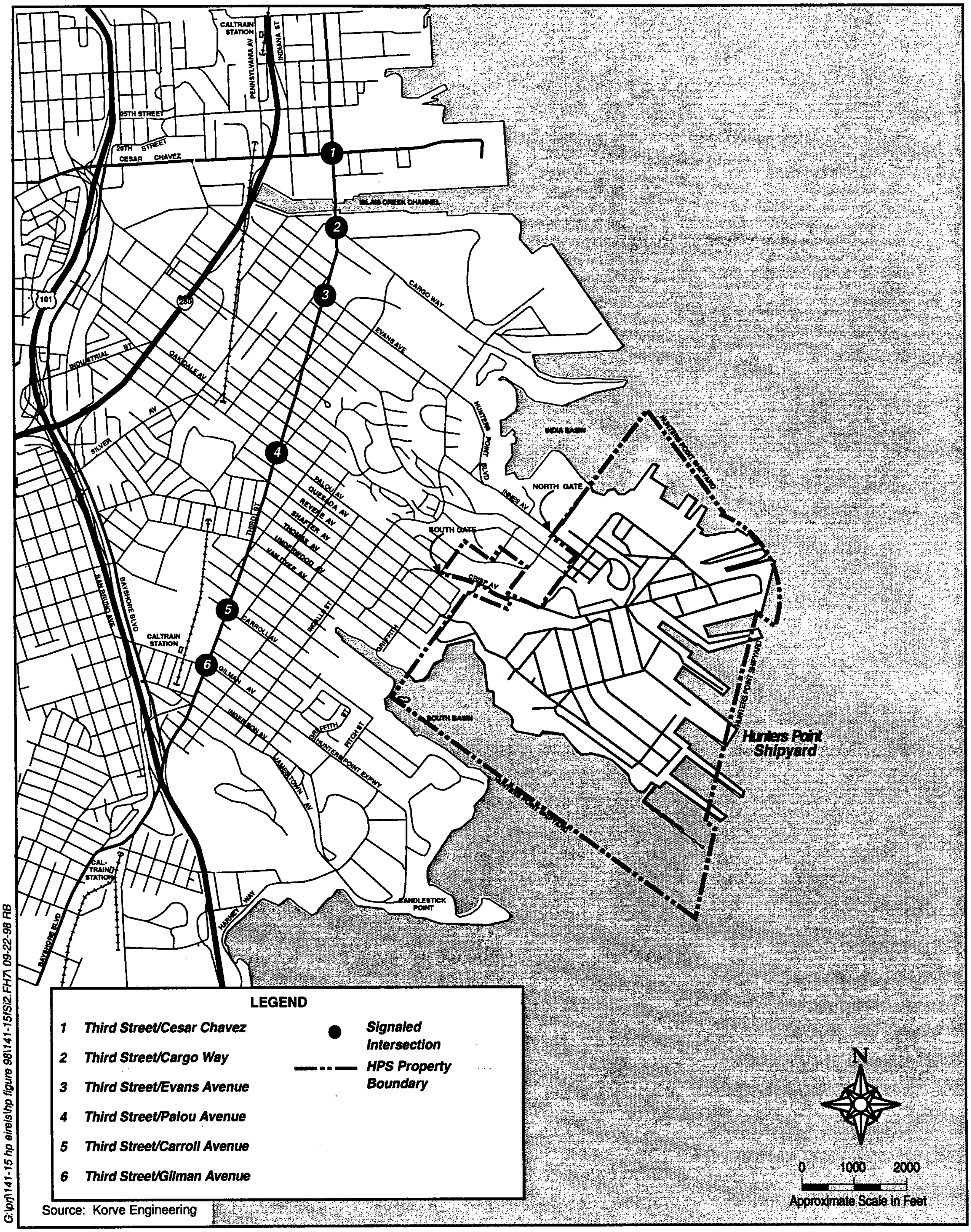
Table B-19
Comparison of Intersection LOS for Future Projects
Weekday P.M. Peak Hour

Intersection	*1996 Traffic Analysis for Hunters Point EIS/EIR (2010)*	*Third Street LRT Extension EIR (2015)*	*On-going Candlestick Point Stadium and Retail/ Entertainment Center Analysis (2015)*[1]
Third Street/Cesar Chavez	C[2]	F	F
Third Street/Cargo Avenue	B	B	-
Third Street/Evans Avenue	F	E	E
Third Street/Palou Avenue	B	B	-
Third Street/Carroll Avenue	B	B	B
Third Street/Gilman Avenue	B	B	C

Notes:

1 Candlestick Point Stadium and Retail/Entertainment Center analysis is provided for non-game day conditions.

2 Hunters Point EIS/EIR did not include the reduction of travel lanes from the proposed Third Street LRT Extension project. If this had been considered, this intersection would have operated atLOS F. To account for the LRT Extension, a LOS of F identified in the LRT and Candlestick projects in the year 2015 is used in the EIS traffic analysis for this intersection.



G:\prj\141-15 hp eir\eis\hp figure 98\141-15fS\2.FH7\ 09-22-98 RB

Figure B-3: Intersections Evaluated for Future Projects

Freeway LOS

Table B-20 presents future traffic volumes for key freeway segments in the project vicinity for both the HPS and Candlestick Point projects. As shown in the table, there are substantial differences in freeway volumes in the two analyses. The primary reason for the difference is that vehicle trips generated by the Candlestick Point Stadium and Retail/Entertainment Center project were not specifically accounted for in the HPS EIS/EIR analysis. The majority (80 percent) of the Candlestick Point Stadium and Retail/Entertainment Center project traffic would use Harney Way to access U.S. 101. By implementing the Candlestick Point Stadium and Retail/Entertainment Center project, freeway LOS would be substantially degraded, as U.S. 101 and I-280 in the vicinity of the project site would operate at LOS F, with the exception of I-280 northbound south of U.S. 101 (LOS D). In general, LOS E and F indicate that the freeway segments would operate at congested condition (i.e., at, or close to, capacity) and breakdowns in traffic flows would occur frequently.

Table B-20
Comparison of Freeway LOS for Future Conditions
Weekday P.M. Peak Hour

Freeway Segment	*Hunters Point EIS/EIR (2010)*				*On-going Candlestick Point Stadium and Retail/Entertainment Center Analysis (2015)*			
	Northbound		*Southbound*		*Northbound*		*Southbound*	
	Volume	*V/C and LOS*	*Volume*	*V/C and LOS*	*Volume*	*V/C and LOS*	*Volume*	*V/C and LOS*
U.S. 101 at SF county line	6,540	0.71/D	6,440	0.70/D	9,957	1.13/F	11,220	1.28/F
I-280 South of U.S. 101	4,070	0.44/B	8,550	0.93/E	6,069	0.69/D	9,176	1.04/F

Note: The Candlestick Point Stadium and Retail/Entertainment Center analysis data was for 2015 plus Project scenario.

Percent of Traffic Contributed by the Hunters Point Project

Based on a combination of the Citywide Travel Behavior Survey (CTBS) and MTC regional travel forecasting model data, the majority (80 percent) of HPS traffic would use the Evans Avenue North Gate for access. Consequently, the HPS project's largest traffic contribution would be to the critical movements at the Third Street/Evans Avenue intersection. After traveling through this intersection, traffic would disperse. Congestion on this roadway would decrease as the distance from HPS increases. Table B-21 presents the percent of future intersection traffic that would be contributed by the HPS project during the weekday P.M. peak hour.

Table B-21
Percent of Intersection Traffic Contributed by the Hunters Point Project for Future Conditions (Weekday P.M. Peak Hour)

Intersection	*Total Critical Volume*	*Contribution by Hunters Point Traffic*	
		Critical Volume	*Percentage*
Third Street/Cesar Chavez Street	1,606	307	19.1%
Third Street/Cargo Way	1,402	465	33.5%
Third Street/Evans Avenue	1,542	565	36.6%
Third Street/ Palou Avenue	1,149	1	0.08%
Third Street/Carroll Avenue	893	110	12.3%
Third Street/Gilman Avenue	1,155	92	8%

Table B-22 presents the percent of future freeway traffic that would be contributed by the HPS project during the weekday P.M. peak hour.

Table B-22
Percent of Freeway Traffic Contributed by the Hunters Point Project for Future Conditions (Weekday P.M. Peak Hour)

Freeway Segment	*Future Traffic Volume (2015)*		*Contribution by Hunters Point Traffic (Volume and Percent Contribution)*	
	Northbound	*Southbound*	*Northbound*	*Southbound*
	Volume	*Volume*	*Volume and % Contribution*	*Volume and % Contribution*
U.S. 101 at SF county line	9,957	11,220	190/1.9%	190/1.69%
I-280 South of U.S. 101	6,069	9,176	120/1.98%	250/2.72%

Note: Future traffic volume data were obtained from the Candlestick Point Stadium and Retail/Entertainment Center analysis.

Traffic During Candlestick Point Stadium Project Construction Period

The Candlestick Point Stadium and Retail/Entertainment Center project sponsor has proposed the possibility of using HPS for game day parking for a period of about 2 years when the new stadium is under construction and the existing stadium (3Com Park) is open for ball games. During this period, it is anticipated that most parking spaces at 3Com Park would be displaced. In the worst-case situation, these spaces would be temporarily replaced in several locations. HPS is one of the sites being considered; the total number of spaces or acreage needed is not yet defined.

If HPS is considered for game day parking during the construction period, access to HPS would potentially be from two separate gates:

- Evans Avenue (North Gate) for vehicles from the north
- Crisp Avenue (South Gate) for vehicles from the south

Access to the Evans Avenue gate would most likely be from Third Street and Evans Avenue. Potential cumulative impacts would be additional queuing of vehicles turning left from Third Street to Evans Avenue. Long traffic queues are expected during the peak inbound period. In addition, the Third Street LRT project is expected to be under construction during this period. The Third Street LRT project would remove one travel lane from Third Street and, consequently, would further aggravate traffic conditions.

Access to the Crisp Avenue South Gate would come from both Third Street (via the Third Street ramp) and Hunters Point Parkway (via the Harney Way ramp). Potential cumulative impacts would be intrusions in the east-west direction residential streets, from Palou Avenue to Carroll Avenue. Currently congested streets in residential areas, such as Gilman, Ingerson and Jamestown Avenues, would benefit from the shifting of traffic traveling to and from the stadium to the other residential streets.

To reduce traffic impacts on the adjacent neighborhoods, clear traffic signs would need to be provided along U.S. 101 and at the Harney Way interchange to direct motorists to use the non-residential streets to access HPS.

Traffic Implications of the Proposed Yosemite Slough Bridge

The Yosemite Slough bridge was proposed to provide an additional access route to HPS from the south. This bridge would connect the HPS South Gate at the Crisp/Griffith intersection to U.S. 101 via Griffith Street, Hunters Point Parkway, and Harney Way. Carrol Avenue would be extended from Third Street to Bayshore Boulevard to allow access to U.S. 101 ramps at Bayshore Boulevard. This proposal (the bridge and the Carrol Avenue extension) are the subject of an ongoing feasibility study but have not been programmed in the RTIP. Without the Yosemite Slough bridge, it is anticipated that about 20 percent of all traffic entering and exiting HPS would use the South Gate at Crisp Avenue (about 370 vehicles in the A.M. peak hour and 410 vehicles in the P.M. peak hour).

It is not anticipated that the Yosemite Slough bridge connection would change the overall travel pattern entering and exiting HPS. The project distribution pattern was developed using a combination of data obtained from the MTC regional forecasting model and the Citywide Travel Behavior Survey (CTBS) for Superdistrict 3. It is estimated that the majority of the trips to HPS would be from San Francisco (74.5 percent), and the remaining trips would be from the North Bay (2.7 percent), East Bay (7.8 percent), and South Bay (15 percent). Based on this trip distribution pattern, it is estimated that approximately 80 percent of the vehicle trips would continue to use the Evans Avenue North Gate, regardless of whether the Yosemite Slough bridge connection is made.

The Yosemite Slough bridge connection would primarily change the route people take to enter and exit the South Gate. It is anticipated that there would be 179 vehicles (44 percent of all vehicles entering/exiting the South Gate) using this connection in the P.M. peak hour. This volume would translate to a commensurate reduction (179 vehicles in the P.M. peak hour) of neighborhood traffic intrusions in the Bayview-Hunters Point neighborhood. The remaining traffic would use Third Street to access other San Francisco neighborhoods.

Potential impacts of HPS-generated traffic on the following two intersections via the proposed Yosemite Slough bridge connection were also examined for typical weekday P.M. peak hour conditions.

- Harney Way and Alana Way
- Alana Way and Beatty Avenue

It is anticipated that in 2015, when the Candlestick Point Stadium and Retail/Entertainment Center project is fully constructed, these two intersections would operate at LOS F during the P.M. peak period with and without the Yosemite Slough bridge connection to HPS. It is estimated that the total number of vehicles from the HPS project that would use the Yosemite Slough bridge would represent a very small portion (about 5 percent) of the total approach traffic volumes at these two intersections.

The primary impacts at these two intersections would be generated by the Candlestick Point Stadium and Retail/Entertainment Center project and additional development at the Brisbane Bayland site. The Harney Way and Alana Way intersection and Alana Way and Beatty Avenue intersection are expected to operate at LOS F with or without the Candlestick Point project in 2015 (this assumes that a significant portion of the Brisbane Bayland project would be built). It is expected that this problem can only be rectified with significant modification to the existing U.S. 101 Harney Way/Alana Way/Beatty Avenue interchange.

This page intentionally left blank.

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, WEST
NAVAL FACILITIES ENGINEERING COMMAND
900 COMMODORE DRIVE
SAN BRUNO, CALIFORNIA 94066-5006

IN REPLY REFER TO:

Record of Non-Applicability

Disposal and Reuse of Hunters Point Shipyard, San Francisco, California

Pursuant to Section 176(c) of the Clean Air Act, 42 U.S.C. § 7506(c), the General Conformity Rule, 40 C.F.R. Part 93, Subpart B, and the Chief of Naval Operations Interim Guidance on Compliance with the Clear Air Act General Conformity Rule, March 8, 1995, the Department of the Navy has determined that the actions to dispose of and reuse the Hunters Point Shipyard in San Francisco, California, are exempt from the requirement for a conformity determination. This finding is based on the following exemptions as stated in 40 C.F.R. § 93.153(c) (2):

(xi) The granting of leases, licenses such as for exports and trade, permits, and easements where activities conducted will be similar in scope and operation to activities currently being conducted.

(xiv) Transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of transfer.

(xix) Actions (or portions thereof) associated with transfers of land, facilities, title, and real properties through an enforceable contract or lease agreement where the delivery of the deed is required to occur promptly after a specific, reasonable condition is met, such as promptly after the land is certified as meeting the requirements of CERCLA, and where the Federal agency does not retain continuing authority to control emissions associated with the land, facilities, title, or real properties.

(xx) Transfers of real property, including land, facilities, and related personal property from a Federal entity to another Federal entity and assignments of real property, including land, facilities, and related personal property from a Federal entity to another Federal entity for subsequent deeding to eligible applicants.

The Environmental Protection Agency's preamble to the General Conformity Rule explained the exemption for Federal land transfers as follows: "Under the exclusive definition of indirect emissions, Federal land transfers are unlikely to be covered since the Federal agency will not maintain authority over reuse activities on that land. Consequently, Federal land transfers are included in the regulatory list of actions that will not exceed the de minimis levels and thus are exempt from the final conformity rules". 58 Fed. Reg. 63231 (1993).

Based on the foregoing regulations and policies, I have determined that the Navy's actions to dispose of and reuse the Hunters Point Shipyard are exempt from the requirement for a conformity determination.

ERNEST R. HUNTER
Captain, CEC, U.S. Navy
Commanding Officer

3/18/99
DATE

Air Quality

Introduction

Two types of air quality analyses have been used in the EIS/EIR to quantify potential air quality impacts: dispersion modeling analyses to evaluate potential carbon monoxide concentrations, and vehicle emissions estimates to evaluate the significance of ozone precursor emissions from vehicle traffic. Both types of analyses use vehicle emission rates derived from the EMFAC7F vehicle emission rate model. However, emission rates used in a dispersion modeling analysis will be generated using different assumptions than those used for estimating ozone precursor emissions.

Emission rates for dispersion modeling analyses represent point estimates of vehicle operating conditions, while those used for ozone precursor evaluations reflect cumulative patterns of vehicle conditions over an entire trip. The following sections discuss the specific procedures used for the dispersion modeling and ozone precursor analyses.

Carbon Monoxide Dispersion Modeling Procedures

Predicting the ambient air quality impacts of pollutant emissions requires consideration of the transport, dispersion, chemical transformation, and removal processes which affect pollutant emissions after their release from a source. Gaussian dispersion models are frequently used for such analyses. The term "gaussian dispersion" refers to a general type of mathematical equation used to describe the horizontal and vertical distribution of pollutants downwind from an emission source.

Gaussian dispersion models treat pollutant emissions as being carried downwind in a defined plume, subject to horizontal and vertical mixing with the surrounding atmosphere. The plume spreads horizontally and vertically with a reduction in pollutant concentrations as it travels downwind. Mixing with the surrounding atmosphere is greatest at the edge of the plume, resulting in lower pollutant concentrations outward (horizontally and vertically) from the plume center. This decrease in concentration outward from the center of the plume is treated as following a gaussian ("normal") statistical distribution. Horizontal and vertical mixing generally occurs at different rates. Because turbulent motions in the atmosphere occur on a variety of spatial and time scales, vertical and horizontal mixing also varies with distance downwind from the emission source.

Dispersion models calculate pollutant concentrations at particular locations ("receptors" in modeling jargon) by applying appropriate horizontal and vertical dispersion factor equations to the initial pollutant concentration. The dispersion factor equations are determined from the spatial position of the receptor relative to the emission source location and the centerline of the pollutant plume extending downwind from the emission source.

When more than one emission source affects a particular receptor location, the total pollutant concentration at the receptor is the sum of the individual pollutant increments contributed by each emission source.

The reference to "pollution plumes" implies an analogy to physically mixing fluids (air in this case) with different pollutant concentrations. That would seem to suggest that the pollution concentration at a given location would be the average, not the sum, of the incremental concentrations from each overlapping plume. Despite the use of "pollution plume" technology, the fluid mixing analogy is inappropriate in the context of atmospheric dispersion models.

The flaw in the fluid analogy involves the total volume of fluid present as additional emission source contributions are added. The volume of "carrier fluid" (air) at a receptor point remains constant regardless of the number of overlapping pollution plumes affecting the site.

The faulty fluid analogy can be visualized as pouring buckets of water with different salt concentrations into an empty swimming pool. The resulting pollutant (salt) concentration is the weighted average of the concentrations in the incremental additions of salty water. The actual situation with atmospheric dispersion modeling is more like pouring different sized jars of salt into a swimming pool already filled with water. The resulting pollutant (salt) concentration is the sum of the effects of the incremental additions of salt.

In more technical terms, atmospheric dispersion models operate by simulating the spatial distribution of pollutant molecules, rather than simulating the mixing of fluids per se. The pollution plume terminology that leads to confusion is, however, too thoroughly engrained in the modeling literature to change.

Dispersion modeling analyses for this EIS/EIR used the CALINE4 dispersion model and vehicle emission rates derived from the California Air Resources Board's (CARB's) EMFAC7F vehicle emission rate model.

The CALINE4 Model

CALINE4 (Benson, 1989) is a gaussian dispersion model developed by the California Department of Transportation (Caltrans) to evaluate ambient air quality conditions near highways. Modeled highway links are analyzed in the model as a sequence of short segments. Each segment of a highway link is treated as a separate emission source producing a plume of pollutants which disperses downwind. Pollutant concentrations at any specific location are calculated as the total contribution from overlapping pollution plumes originating from the sequence of roadway segments.

The CALINE4 model employs a "mixing cell" approach to estimating pollutant concentrations over the roadway itself. Vertical dispersion of pollutants above the roadway are assumed to be deposited by mechanical turbulence from moving vehicles and convective mixing due to the temperature of vehicle exhaust gases. In this situation, the vertical limit of mixing (i.e., the height of the mixing cell) becomes a function of pollutant residence time within the mixing cell. Residence time depends on mixing cell width, wind angle relative to the mixing cell, and wind speed. The width of the mixing cell over each roadway segment is based on the width of the highway traffic lanes plus an additional vehicle-induced turbulence zone on either side. Parking lanes and roadway shoulders are not counted as traffic lanes.

The CALINE4 model computes an initial vertical dispersion parameter to characterize the vertical profile of pollutant concentrations over the roadway. Pollutant concentrations downwind from the mixing cell are then calculated using horizontal and vertical dispersion rates which are a function of various meteorological and ground surface conditions.

When winds are essentially parallel to a highway link, pollution plumes from all roadway segments overlap. Mixing produces high concentrations near the roadway (near the center of the overlapping pollution plumes), and low concentrations well away from the highway (at the edges of the overlapping pollution plumes). When winds are at an angle to the highway link, pollution plumes from distant roadway segments make essentially no contribution to the pollution concentrations observed at a receptor location. Under such cross-wind situations, pollutant concentrations near the highway are lower than under parallel wind conditions (fewer overlapping plume contributions), while pollutant concentrations away from the highway may be greater than would occur with parallel winds (near the center of at least some pollution plumes).

The CALINE4 model was originally released in 1984. Minor program revisions were made in 1988 and 1989. One of the program revisions made in 1989 introduced an altitude-based air pressure correction factor into the equation that converts air quality units from micrograms per cubic meter to parts per million by volume. By definition, such unit conversions should be done for 25 degrees Celsius (77 degrees Fahrenheit) and 1 atmosphere pressure (for proper comparison to Federal and state ambient air quality standards). Actual ambient monitoring data must be corrected for temperature and pressure effects of actual ambient temperature and pressure. The reverse procedure of adjusting modeling results to study area ambient temperature and air pressure should not be used.

All CALINE4 modeling conducted for this EIS/EIR used the model in the standard link run mode. Excess idling emissions at congested intersections were addressed through a simple emission rate adjustment procedure (Sculley, 1989). The intersection link option in CALINE4 was not used.

Roadway and Traffic Conditions

The highway network modeled for this EIS/EIR included:

- U.S.101 between Bay Shore Boulevard and I-280;
- I-280 from U.S.101 to Cesar Chavez Street;
- Third Street from U.S.101 to Cesar Chavez Street;
- The Evans Avenue/Innes Avenue corridor from Quint Street to Coleman Street;

- Palou Avenue from Newhall Street to Crisp Avenue;
- Paul Avenue/Gilman Avenue from Gould Street to Jennings Street;
- Crisp Avenue;
- Spear Avenue;
- H Street south of Spear Avenue;
- Donahue Street from Innes Avenue to Lockwood Street; and
- Lockwood Street between Donahue Street and Spear Avenue.

Roadway coordinates were scaled form topographic maps. Most roadways were modeled as multiple link segments to reflect changes in roadway alignment and traffic volumes. Separate 1-block links were established at 3 intersections along Third Street so that the effects of extended vehicle idling could be analyzed. The overall roadway network was modeled as a system of 40 roadway links.

Most roadway links were modeled as at-grade roadways. Some of the freeway links were modeled as bridge links, with a relative elevation of 30 feet (9 m). Most mixing zone widths were based on a 5-foot (1.5-m) turbulence zone on each side of the roadway, 12-foot (3.7-m) lane widths for surface streets, and 14-foot (4.3-m) lane widths for freeways. Roadway segments at heavily congested intersections were modeled with a mixing zone width based only on traffic lanes.

Modeled traffic volumes were based on 2010 and 2025 afternoon peak hour conditions for the No Action, Proposed Reuse Plan, and Reduced Development alternatives. Modeled non roadways were treated in a directional manner; traffic volumes and speeds in both directions were assigned to a single link. Surface street volumes were taken (or interpolated) from intersection level of service analyses developed for the traffic impact section by Korve Engineering. Freeway volumes were estimated by inflating pre-earthquake volumes by 5 percent for 2010 and 10 percent for 2025, with an additional increment of reuse plan traffic based on peak hour traffic generation and directional distribution provided by Korve Engineering.

Table B-23 summarizes the roadway network used for the CALINE4 modeling analysis.

Receptor Locations

Carbon monoxide concentrations were calculated for 12 receptor locations at 4 intersections: Evans Avenue and Third Street (4 receptors), Palou Avenue and Third Street (4 receptors), Innes Avenue and Donahue Street (2 receptors north of Innes Avenue), and H Street and Spear Avenue (2 receptors south of Spear Avenue). Receptor coordinates represent locations 50 feet (15 m) from the centerlines of adjacent roadways. Receptor coordinates were calculated from roadway link coordinates using a coordinate geometry spreadsheet. All receptor heights were set at 5 feet (1.5 m). Table B-24 presents the receptor coordinates used for the CALINE4 modeling.

Meteorological and Surface Roughness Parameters

All CALINE4 runs assumed a wind speed of 1.0 meters per second (2.2 mph), stable atmospheric conditions (stability class E and a horizontal wind direction fluctuation parameter of 10 degrees), and a mixing height limit of 50 meters (164 feet). Wind directions were varied in 10 degree increments to identify the situation producing the highest total pollutant concentration at each receptor location.

The CALINE4 model was run using an averaging time of 60 minutes and a surface roughness factor of 75 centimeters (30 inches). No settling or deposition velocities were used. A scale factor of 0.3048 was used to convert and receptor coordinate units from feet to meters.

Table B-23
Modeled Roadway Network

Roadway	Segment	Link Segment Coordinates				Segment Length	Lanes	P.M. Peak Hour Volumes							Free Flow Speed	Delay Time Per Vehicle (Sec.)						
		X1	Y1	X2	Y2			Existing	No P 2010	No P 2025	Proj 2010	Proj 2025	Rd 2010	Rd 2025		Existing	No P 2010	No P 2025	Proj 2010	Proj 2025	Rd 2010	Rd 2025
Third St.	Jamestown	586	3515	1055	4335	945	6	2344	1920	2275	2147	2616	2002	2416	35							
	Hollister	1055	4335	1250	4882	581	6	2344	1920	2275	2147	2616	2002	2416	35							
	Gilman	1250	4882	1328	5156	284	6	2344	1920	2275	2147	2616	2002	2416	35							
	Fitzgerald	1328	5156	1406	5429	284	6	2511	2027	2393	2254	2734	2109	2534	35							
	Carroll	1406	5429	1719	6249	878	6	2134	1693	2016	1918	2356	1774	2155	35							
	Quesada	1719	6249	2617	9139	3027	6	2128	1688	2004	1906	2330	1764	2137	35							
	Palou	2617	9139	2695	9413	284	6	2539	2088	2480	2303	2738	2164	2610	35							
	Newcomb	2695	9413	2734	9686	276	6	2526	2043	2424	2080	2419	2057	2448	35							
	Fairfax	2734	9686	3515	12303	2731	6	2506	2041	2420	2147	2554	2082	2488	35							
	Evans	3515	12303	3593	12577	284	6	2485	2039	2415	2214	2689	2106	2528	35				10	13	9	11
	Davidson	3593	12577	3710	12967	408	6	2544	2030	2405	2794	3537	2299	2862	35				16	41	13	21
	Burke	3710	12967	3789	13397	437	6	2411	1932	2295	2735	3445	2214	2775	35							
	Cargo	3789	13397	3789	13865	469	6	2277	1833	2184	2676	3352	2129	2688	35							
	C. Chavez	3789	13865	3671	15272	1411	6	2673	2182	2549	3015	3719	2478	3053	35	6	6	6	9	19	6	9
Gilman	W Third	742	5273	1328	5156	597	2	565	515	542	515	542	515	542	25							
	E Third	1328	5156	1875	4804	650	2	424	412	426	412	426	412	426	25							
Palou	W Third	2148	9764	2695	9413	650	2	549	531	553	531	543	531	553	25							
	E Third	2695	9413	3242	8983	695	2	488	472	489	722	832	560	639	25							
	Crisp	3242	8983	5937	7069	3305	2	488	472	489	722	832	560	639	25							
Evans	W Third	2851	13084	3593	12577	899	4	1299	1379	1542	1863	2287	1566	1837	35							
	E Third	3593	12577	3945	12303	445	4	1492	1576	1760	3013	3927	2099	2641	35	13	42	16	86	131	22	33
	W HP Blvd.	3945	12303	6562	10467	3197	4	831	873	965	2337	3173	1396	1863	35							
	HP Jog	6562	10467	6796	9882	631	4	170	170	170	1660	2418	693	1085	35							
	N Innes	6796	9882	6757	8905	977	4	224	224	224	1734	2491	768	1158	35							
	W Donahue	6757	8505	8749	7499	2438	4	224	224	224	1734	2491	768	1158	35							
	W Coleman	8749	7499	9257	7108	641	2	155	155	155	1418	2175	550	940	25							

Table B-23, continued
Modeled Roadway Network

		Link Segment Coordinates						P.M. Peak Hour Volumes							Free	Delay Time Per Vehicle (Sec.)						
Roadway	Segment	X1	Y1	X2	Y2	Segment Length	Lanes	Existing	No P 2010	No P 2025	Proj 2010	Proj 2025	Rd 2010	Rd 2025	Flow Speed	Existing	No P 2010	No P 2025	Proj 2010	Proj 2025	Rd 2010	Rd 2025
Donahue	S Lockwood	8749	7499	9491	8358	1135	2	144	144	144	1001	1526	408	667	25							
Lockwood	W Spear	9491	8358	11639	6835	2633	2	24	24	24	213	365	91	109	25							
Crisp	S Palou	5351	7108	5937	7069	587	2	47	47	47	610	767	114	189	25							
	N Palou	5937	7069	6757	6952	829	2	47	47	47	610	767	114	189	25							
	W Spear	6757	6952	8827	6054	2257	2	47	47	47	610	767	114	189	25							
Spear	S Crisp	7812	5781	8827	6054	1052	2	45	45	45	103	138	73	90	25							
	S Fisher	8827	6054	9999	6366	1213	2	60	60	60	654	798	122	175	25							
	S Lockwood	9999	6366	11639	6835	1706	2	17	17	17	98	197	57	129	25							
H Street	S Spear	8827	6054	9218	4609	1497	2	45	45	45	676	922	134	232	25							
U.S.101	S 280	469	2812	-1797	9921	7461	8	28500	29925	31350	30295	31918	30065	31595	65							
I-280	Thru 101	-1797	9921	-547	10702	1474	4	6000	6300	6600	6722	7249	6460	6880	65							
	Frm NB 101	-1640	9296	-547	10702	1781	4	2300	2415	2530	2415	2530	2415	2530	65							
	Evans	-547	10702	1875	10077	2501	6	8300	8715	9130	9085	9698	8855	9375	65							
	C. Chavez	1875	10077	2422	15272	5223	6	8300	8715	9130	9085	9698	8855	9375	65							

Source: Tetra Tech, Inc., 1996.

TABLE B-24
CALINE4 Receptor Coordinates

Receptor	*X-Coord.*	*Y-Coord.*	*Offset*
NW Evans & 3rd	3565	12657	50
NE Evans & 3rd	3651	12595	50
SW Evans & 3rd	3535	12556	50
SE Evans & 3rd	3621	12492	50
NW Palou & 3rd	2656	9497	50
NE Palou & 3rd	2749	9435	50
SW Palou & 3rd	2637	9391	50
SE Palou & 3rd	2723	9328	50
NW Innes & Donahue	8741	7566	50
NE Innes & Donahue	8822	7507	50
SW H St. & Spear	8792	5993	50
SE H St. & Spear	8888	6019	50

Source: Tetra Tech, Inc., 1996.

Background Concentrations

The CALINE4 model allows a uniform background pollutant concentration to be entered for each meteorological scenario. Background concentrations represent ambient pollution increments from unmodeled emission sources. In reality, background pollutant concentrations can vary with both the meteorological scenario and the specific receptor location. Consequently, no background carbon monoxide concentrations were entered in the CALINE4 input file. A peak hour background concentration of 4 ppm was manually added to the modeling results for each receptor location. The background concentration represents an estimated contribution from modeled roadways and parking facilities.

8-Hour Average Carbon Monoxide Concentrations

Potential 8-hour average carbon monoxide levels were estimated by applying a persistence factor of 74.6 percent to the maximum 1-hour carbon monoxide levels (modeled increment plus background) for each receptor location. The persistence factor was calculated from the maximum 8-hour and maximum 1-hour carbon monoxide concentrations reported at the BAAQMD's Arkansas Street monitoring station for 1989-1993 (see Table 3.2-2 in the EIS/EIR).

Vehicle Emission Rates

The EMFAC7F vehicle emission rate program (CARB, 1992, 1993, 1993a, 1993b) was used to estimate carbon monoxide emission rates for vehicles operating on roadways in the study area. EMFAC7F determines vehicle emission rates based on a wide range of factors: pollutants of interest; calendar year; air temperature; mix of vehicle types; average route speed; age distribution of vehicles by type; average annual mileage accumulations by vehicle age and type; basic exhaust emission rates for new vehicles by vehicle type and model year; deterioration rates for exhaust emissions by vehicle type and accumulated n-mileage; and vehicle effectiveness in inspection and maintenance programs.

EMFAC7F is designed primarily for use in generating regional and statewide emission inventories rather than vmt-based emission rates used for dispersion models. In addition, the model is structured to use default values for most input parameters. Consequently, standardized EMFAC7F output files provided by CARB were placed into a spreadsheet model that performs appropriate unit conversions and composite weightings while allowing the user to vary key parameters of interest. Lookup table data in the spreadsheet version of EMFAC7F are based on 5 mph (8 km per hour) speed increments and 10 degree temperature increments. Key input data and assumption used for the dispersion modeling analysis are discussed below.

Calendar Years

Average vehicle emission rates depend on the types and condition of vehicles operating in the area of concern. Federal and state motor vehicle emission control programs are resulting in a continuing reduction in average emission rates for most types of vehicles. Average emission rates will change in the future as vehicles manufactured without sophisticated emission control systems are replaced by newer vehicles with more extensive emission control systems. Air quality analyses involving highway traffic conditions must therefore reflect vehicle emission rate for an appropriate calendar year.

The EMFAC7F program includes emission rates for calendar years from 1980 to 2020. Emission rates used for this EIS/EIR were for 2010 and 2020. The emission rates for 2020 were used for the buildout (2025) analyses.

Air Temperature

Vehicle emission rates for carbon monoxide vary with ambient air temperature, generally being higher at lower temperatures. Carbon monoxide problems are primarily a winter phenomenon, and tend to occur most often in the late afternoon and evening hours. A typical winter season late afternoon air temperature of 50 degrees Fahrenheit (10 degrees Celsius) was used for all emission rates.

Vehicle Mixes

The EMFAC7 model contains emission rate data for several categories of vehicles, with distinctions based primarily on vehicle weight and fuel type. Different vehicle mixes were used for surface streets and freeways included in the dispersion modeling analysis. The vehicle mixes were generated by a spreadsheet model that adjusts regional vehicle registration data for alternative heavy truck fractions.

The surface street vehicle mix was 71.56 percent autos, 13.36 percent light trucks/vans, 1.32 percent medium truck/vans, 8.75 percent gasoline-fueled heavy trucks, 4.12 percent diesel-fueled heavy trucks, and 0.89 percent motorcycles. The freeway vehicle mix was 70.29 percent autos, 13.13 percent light trucks/vans, 1.30 percent medium trucks/vans, 6.17 percent gasoline-fueled heavy trucks, 8.23 percent diesel-fueled heavy trucks, and 0.88 percent motorcycles. The spreadsheet version of EMFAC7F uses CARB default factors to split the light and medium duty vehicle types into catalyst-equipped, noncatalyst, and diesel-fueled subtypes.

Vehicle Operating Models

The EMFAC7F program recognizes due operating mode conditions for gasoline-fueled passenger vehicles. These operating modes (cold start, hot start, and hot stabilized) are a function of four factors: how long a vehicle's engine has been on; how long the vehicle was parked before the engine was started; the operating mode condition of the vehicle at the time it was previously parked, and whether the vehicle has a catalytic converter. Vehicles operating in a cold start mode have significantly higher emission rates than those operating in hot start or hot stabilized modes.

Vehicle operating mode definitions reflect the conditions of standardized test procedures used to certify that new vehicles meet applicable Federal and state emission standards. By definition, the hot stabilized mode represents all vehicle operation occurring after the engine has been on for 505 seconds. The first 505 seconds of vehicle operation will be in either a cold start or a hot start mode. Cold start and hot start operating mode are distinguished by three factors: the operating mode condition of the vehicle when parked; the duration of parking preceding vehicle start-up; and the presence of absence of a catalytic converter.

Vehicles with a catalytic converter will resume operations in a cold start mode after the engine has been off for 1 hour or more. Vehicles without a catalytic converter resume operations in a cold start mode after the engine has been off for 4 hours or more. Any vehicle which is still in a cold start mode when parked will resume operations in a cold start mode regardless of the parking duration.

If a catalyst-equipped vehicle is parked for less than 1 hour, it will resume operations in a hot start mode (unless the vehicle was still in a cold start mode when it parked). If a noncatalyst vehicle is parked for a period of less than 4 hours, it will resume operations in a hot start mode.

Parking duration patterns vary by trip purpose. Work trips often begin in a cold start mode and end with a long parking duration. Shopping trips are more likely to begin in a hot start mode and end with a short or intermediate parking duration. Typical cold start and hot start patterns by trip type have been developed by Caltrans using data from statewide travel pattern surveys (Caltrans, 1981).

Vehicle emission rates used in a dispersion modeling analysis should reflect a point estimate of the fraction of vehicles operating in start mode conditions along various roadway segments. This can be calculated by estimating two components of the traffic flow for relevant roadway segments: the mix of trip purposes for the time period being modeled, and the fraction of vehicles that will have been in operation for more than 8.4 minutes (505 seconds). The Caltrans start mode fractions can then be applied to derive cold start and hot start fractions.

A simple spreadsheet model was used to perform the operating mode calculation, assuming a single operating mode for all roadways being modeled. The Caltrans start mode fraction data used in the spreadsheet were adjusted for the effects of trips completed while in a cold start mode. Table B-25 presents the results of this analysis. For carbon monoxide modeling purposes, vehicle emission rates were calculated using the weighted average operating mode fractions (25.47 percent cold start, 12.53 percent hot start, and 62 percent hot stabilized). Because there will be so few noncatalyst vehicles in 2010 and 2020, the operating mode fractions remain the same for both calendar years.

Vehicle Speeds

Emission rates used in the dispersion modeling analysis were calculated for various average traffic speed conditions. Emission rates for 10 mph (16 km per hour) and 25 mph (40 km per hour) were used for surface street traffic, to account for most delays caused by turning vehicles or by intersection traffic controls. Emission rates for a 35 mph (56 km per hour) average speed were used for U.S.101 traffic. Emission rates for a 45 mph (72 km per hour) average speed were used for I-280 traffic.

Excess Idling Emissions

The equations used in the vehicle emission rate models incorporate coefficients representing speed-dependent patterns of vehicle idling, acceleration, cruising, and deceleration. The resulting vehicle emission rates do not represent a constant speed cruise condition. Instead, they represent a pattern of speed changes representing an overall average route speed. The amount of idling time inherent in the emission rate models increases from about 2 percent of travel time at 55 mph (88 km per hour) to 10 percent at 30 mph (48 km per hour) and to 48 percent at 5 mph (8 km per hour) (Smith and Adrich, 1977; Sculley, 1989). This inherent pattern adequately accounts for congestion-related idling on most roadways that do not experience significant congestion or signalization delays.

The amount of vehicle idling at congested or signalized intersections can exceed the amount of idling inherent in the vehicle emission rate models, even if low intersection approach speeds are assumed. To more adequately account for idling at congested intersections, speed adjustments were made to the basic EMFAC7F emission rates for roadway links at congested intersections.

Table B-25
P.M. Peak Hour Operating Modes, Local Traffic

Trip Purpose	Trip Purpose Mix	Hot Stable Fraction	Cold Start Fraction	Hot Start Fraction
H-W	50.00%	75.00%	23.12%	1.88%
H-S	10.00%	20.00%	42.15%	37.85%
H-O	20.00%	60.00%	27.24%	12.76%
O-W	10.00%	55.00%	28.09%	16.91%
O-O	10.00%	50.00%	14.34%	35.66%
WTD Mean:		62.00%	25.47%	12.53%

	Cold Start	Hot Start
Catalyst	25.54%	12.46%
Noncatalyst	18.41%	19.59%

Start Mode Split Factors:

	Catalyst Vehicles		Noncat Vehicles	
Trip Purpose	Cold Starts	Hot Starts	Cold Starts	Hot Starts
H-W	92.63%	7.37%	80.04%	19.96%
H-S	52.89%	47.11%	33.61%	66.39%
H-O	68.35%	31.65%	43.38%	56.62%
O-W	62.64%	37.36%	40.73%	59.27%
O-O	28.90%	71.10%	8.25%	91.75%
WTD Mean:	74.43%	25.57%	56.96%	43.05%

Source: Tetra Tech, Inc., 1996.

Catalyst % for gasoline-fueled vehicles: 98.96 percent
Start Mode = First 505 seconds of vehicle travel
Stable Mode = Travel after 505 seconds of vehicle operation

The basic idle adjustment procedure requires using relatively short roadway links at congested intersections that will be modeled. Based on the length of these links and the assumed average vehicle speed, the amount of idling time inherent in the emission rate model can be determined. This idling time value can then be compared to an estimate of expected actual delay time per vehicle (based on intersection delay analyses, level-of-service estimates, or signal cycle times). If the expected actual delay per vehicle exceeds the idling time accounted for in the vehicle emission rates, an excess idling emission rate increment can be calculated and added to the basic EMFAC7F rate.

Table B-23 includes the overall delay time per vehicle for those roadway links that required an excess idling adjustment to the basic EMFAC7F emission rates. The required amount of idling time was estimated from intersection delay analyses provided by Korve Engineering. Because the intersection delay values reflect only the approach lane traffic volumes, delay times from the Korve analysis had to be averaged over the total traffic volume for the modeled roadway links. Thus, the display times noted in Table B-23 are lower than the values presented in the intersection delay calculations of the Korve Engineering traffic analysis.

The EMFAC7F model does not provide a direct calculation of idling emission rates, but idling rates can be estimated from emission rates at low average speeds. The conventional approach for estimating hot stabilized idling emission rates is to convert a 5-mph (8-km per hour), 100 percent hot stabilized emission rate into a time-based rate (grams of pollutant per minute). Because of the internal structure of the EMFAC7F model, it is also necessary to calculate a cold start common factor from 100 percent stabilized mode and 100 percent cold start mode emission rates at a speed of 16 mph (26 km per hour).

Table B-26 summarizes the idling delay adjustments used for 2010 emission rates. Table B-27 summarizes the idling delay adjustments used for the 2025 emission rates.

Ozone Precursor Emission Estimates

Ozone is not emitted directly to the atmosphere, but is formed from complex chemical reactions in the atmosphere in the presence of sunlight. The directly emitted pollutants (ozone precursors) producing ozone in photochemical smog reactions fall into two groups: reactive organic compounds and nitrogen oxides. Motor vehicle emissions area major source of both pollutant groups.

Ozone precursor emissions associated with vehicle travel under the project alternatives were estimated by combining appropriate vehicle emission rates and travel pattern estimates. Travel pattern estimates were developed to reflect typical trip patterns for average week day conditions. Traffic studies conducted by Korve Engineering were used as the starting point for the trip generation and travel pattern analysis.

Table B-26
Emission Factor Adjustment for Extended Engine Idling Time—Year 2010 Emission Rates

	No Action, 2010		*Proposed Project, 2010*				*Reduced Density, 2025*			
Input Variables	*3rd St, Chavez*	*Evans, E 3rd*	*3rd St, Evans*	*3rd St, Davdsn*	*3rd St, Chavez*	*Evans, E 3rd*	*3rd St, Evans*	*3rd St, Davdsn*	*3rd St, Chavez*	*Evans, E 3rd*
Speed (mph) For Base Emission Rate	25	10	10	10	25	10	10	10	25	10
Link Length, Feet	1,411	445	284	408	1,411	445	284	408	1,411	445
Delay Per Vehicle, Seconds of Idle	6	42	10	16	9	86	9	13	6	22
Base Emission Rate, GM/min	4.58	8.65	8.65	8.65	4.58	8.65	8.65	8.65	4.58	8.65
100% Stabilized 5 mph Rate, GM/min	11.44	11.44	11.44	11.44	11.44	11.44	11.44	11.44	11.44	11.44
100% Stabilized 16 mph Rate, GM/min	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92
100% Cold Start 16 mph Rate, GM/min	10.63	10.63	10.63	10.63	10.63	10.63	10.63	10.63	10.63	10.63
% Catalyst Vehicles	98.96	98.96	98.96	98.96	98.96	98.96	98.96	98.96	98.96	98.96
% Non-Catalyst Cold Starts	18.41	18.41	18.41	18.41	18.41	18.41	18.41	18.41	18.41	18.41
% Catalyst Cold Starts	25.54	25.54	25.54	25.54	25.54	25.54	25.54	25.54	25.54	25.54
Output										
Hot Stabilized Idle Rate, GM/min	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adjusted Cold Start 5 mph rate, GM/min	24.72	24.72	24.72	24.72	24.72	24.72	24.72	24.72	24.72	24.72
Cold Start Idle Rate, GM/min	2.0597	2.0597	2.0597	2.0597	2.0597	2.0597	2.0597	2.0597	2.0597	2.0597
% Idle Time in EMFAC Rates	13.65	32.99	32.99	32.99	13.65	32.99	32.99	32.99	13.65	32.99
Idle Seconds in EMFAC Rates	5.25	10.01	6.39	9.18	5.25	10.01	6.39	9.18	5.25	10.01
Required Extra Idle Seconds	0.75	31.99	3.61	6.82	3.75	75.99	2.61	3.82	0.75	11.99

Table B-26, continued
Emission Factor Adjustment for Extended Engine Idling Time—Year 2010 Emission Rates

	No Action, 2010		*Proposed Project, 2010*				*Reduced Density, 2025*			
Input Variables	*3rd St, Chavez*	*Evans, E 3rd*	*3rd St, Evans*	*3rd St, Davdsn*	*3rd St, Chavez*	*Evans, E 3rd*	*3rd St, Evans*	*3rd St, Davdsn*	*3rd St, Chavez*	*Evans, E 3rd*
Weighted % Cold Starts	25.47	25.47	25.47	25.47	25.47	25.47	25.47	25.47	25.47	25.47
Weighted Cold/Hot Idle Rate, GM/min	1.2351	1.2351	1.2351	1.2351	1.2351	1.2351	1.2351	1.2351	1.2351	1.2351
Base Emission Rate, GM/min	4.58	8.65	8.65	8.65	4.58	8.65	8.65	8.65	4.58	8.65
Added Idle Adjustment, GM/min	0.06	7.81	1.38	1.82	0.29	18.56	1.00	1.02	0.06	2.93
Adjusted Emission rate, GM/min	4.64	16.46	10.03	10.47	4.87	27.21	9.65	9.67	4.64	11.58
Adjustment Factor, % Increase	1.3%	90.3%	16.0%	21.0%	6.3%	214.6%	11.6%	11.8%	1.3%	33.9%

Source: Tetra Tech, Inc., 1996.

TABLE B-27

Emission Factor Adjustment for Extended Engine Idling Time—Year 2025 Emission Rates

	No Action, 2010		*Proposed Project, 2010*				*Reduced Density, 2025*			
Input Variables	*3rd St, Chavez*	*Evans, E 3rd*	*3rd St, Evans*	*3rd St, Davdsn*	*3rd St, Chavez*	*Evans, E 3rd*	*3rd St, Evans*	*3rd St, Davdsn*	*3rd St, Chavez*	*Evans, E 3rd*
Speed (mph) For Base Emission Rate	25	10	10	10	25	10	10	10	25	10
Link Length, Feet	1,411	445	284	408	1,411	445	284	408	1,411	445
Delay Per Vehicle, Seconds of Idle	6	16	13	41	19	131	11	21	9	33
Base Emission Rate, GM/min	3.60	7.38	7.38	7.38	3.60	7.38	7.38	7.38	3.60	7.38
100% Stabilized 5 mph Rate, GM/min	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50
100% Stabilized 16 mph Rate, GM/min	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57
100% Cold Start 16 mph Rate, GM/min	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76
% Catalyst Vehicles	98.96	98.96	98.96	98.96	98.96	98.96	98.96	98.96	98.96	98.96
% Non-Catalyst Cold Starts	18.41	18.41	18.41	18.41	18.41	18.41	18.41	18.41	18.41	18.41
% Catalyst Cold Starts	25.54	25.54	25.54	25.54	25.54	25.54	25.54	25.54	25.54	25.54
Output										
Hot Stabilized Idle Rate, GM/min	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adjusted Cold Start 5 mph rate, GM/min	17.83	17.83	17.83	17.83	17.83	17.83	17.83	17.83	17.83	17.83
Cold Start Idle Rate, GM/min	1.4858	1.4858	1.4858	1.4858	1.4858	1.4858	1.4858	1.4858	1.4858	1.4858
% Idle Time in EMFAC Rates	13.65	32.99	32.99	32.99	13.65	32.99	32.99	32.99	13.65	32.99
Idle Seconds in EMFAC Rates	5.25	10.01	6.39	9.18	5.25	10.01	6.39	9.18	5.25	10.01
Required Extra Idle Seconds	0.75	5.99	6.61	31.82	13.75	120.99	4.61	11.82	3.75	22.99

TABLE B-27, continued
Emission Factor Adjustment for Extended Engine Idling Time—Year 2025 Emission Rates

Input Variables	No Action, 2010		Proposed Project, 2010				Reduced Density, 2025			
	3rd St, Chavez	Evans, E 3rd	3rd St, Evans	3rd St, Davdsn	3rd St, Chavez	Evans, E 3rd	3rd St, Evans	3rd St, Davdsn	3rd St, Chavez	Evans, E 3rd
Weighted % Cold Starts	25.47	25.47	25.47	25.47	25.47	25.47	25.47	25.47	25.47	25.47
Weighted Cold/Hot Idle Rate, GM/min	1.0305	1.0305	1.0305	1.0305	1.0305	1.0305	1.0305	1.0305	1.0305	1.0305
Base Emission Rate, GM/min	3.60	7.38	7.38	7.38	3.60	7.38	7.38	7.38	3.60	7.38
Added Idle Adjustment, GM/min	0.05	1.22	2.11	7.07	0.88	24.66	1.47	2.63	0.24	4.69
Adjusted Emission rate, GM/min	3.65	8.60	9.49	14.45	4.48	32.04	8.85	10.01	3.84	12.07
Adjustment Factor, % Increase	1.3%	16.5%	28.6%	95.8%	24.5%	334.1%	20.0%	35.6%	6.7%	63.5%

Source: Tetra Tech, Inc., 1996.

Vehicle emission rates were calculated using the EMAC7F vehicle emission rate model. As noted previously, the approach used to generate appropriate vehicle emission rates for an ozone precursor analysis differs somewhat from the approach used for carbon monoxide dispersion modeling. Because vehicle emission rates are a nonlinear function of speed and operating mode conditions), using single "daily average" values for key parameters can introduce significant errors into the emission estimates. A better approach is to develop distribution patterns that reflect vehicle operating conditions and speeds over an entire day.

Trip generation for each land use category was disaggregated into trip purpose components. Travel time distributions were estimated for each trip purpose category. The travel time distributions provided a mean travel time and a mean vehicle operating mode pattern. The mean travel time was then combined with a speed distribution pattern to compute appropriate weighted average travel distances and emission rates for each trip purpose. The travel distances and emission rates were then combined to produce estimated vehicle emissions for trips associated with each land use category for a particular reuse scenario.

Major steps in the analysis procedure are discussed below.

Trip Generation

Korve Engineering developed vehicle trip generation estimates for the reuse alternatives as part of the traffic analysis presented in the EIS/EIR text. The daily vehicle trip generation rates are presented in Table B-9 and daily person and vehicle trips are presented in Table 4.1-2. The vehicle trip generation estimates reflect a substantial amount of transit use, ridesharing, and nonvehicular travel. Resulting net trip generation rates are about 50 percent lower than conventional trip generation rates.

Travel Patterns

Travel pattern estimates were developed from two components–estimated travel time distributions for various trip types, and estimated vehicle speed distributions for the same trip types. The travel time and vehicle speed distribution represent professional judgment based on regional land use patterns, regional transportation systems, previous analyses of travel patterns as represented by various regional traffic models, and previous analyses of data from regional and statewide travel pattern surveys.

The travel pattern estimates also recognized that the land use alternatives report prepared as part of the reuse planning process includes land use policies that encourage the development of destination facilities to attract visitors from the entire Bay Area (Objective 1, Policy 6; Objective 3, Policy 5).

Table B-28 presents the trip duration patterns used for the ozone precursor emissions analysis. The data in Table B-28 are presented graphically in Figure B-5. The corresponding speed distribution patterns are presented in Table B-29 and illustrated graphically in Figure B-5. Also included in Table B-29 is the resulting mean trip length for each trip purpose.

A limited amount of comparison information is available from travel survey data collected by Federal, state, and regional agencies. Table B-28 compares the EIS/EIR estimates for home-work trips to commute trip duration pattern data collected in the Bay Area during the 1980 census. The assumed commute trip pattern used in the EIS/EIR is shorter than the average commute trip pattern for the Bay Area. Figure B-5 provides a graphical comparison of the EIS/EIR pattern with trip duration patterns for the central portion of the Bay Area. As an additional point of comparison, Caltrans data show an average commute trip duration of 25 minutes for the Bay Area (Caltrans, 1992).

As shown in Table B-30, most of the readily available information regarding trip durations is restricted to home/work commute trips. The Federal Highway Administration has published national average trip distance estimates for a variety of trip purpose categories (Table B-31). No regional data are presented in the Federal Highway Administration report, so it is not clear how trip distances for the Bay Area compared to the national average.

Vehicle Emission Rates

A general discussion of the EMFAC7F vehicle emission rate model was presented in the discussion of carbon monoxide dispersion modeling procedures. The nature of ozone precursor emissions analysis procedures requires that EMFAC7F emission rates be based on:

- Daily, rather than peak hour, patterns of vehicle activity;
- Use-generated vehicle trips (by trip purpose categories), rather than total traffic on particular types of roadways; and
- Summer temperature patterns, rather than winter patterns.

Table B-28
Travel Time Pattern Assumptions for Alternative Reuse Plans

	Distribution of Travel by Trip Duration Intervals											Mean Travel
Trip Type	*Under 8 Mins.*	*8 - 10 Mins.*	*10 - 15 Mins.*	*15 - 20 Mins.*	*20 - 25 Mins.*	*25 - 30 Mins.*	*30 - 35 Mins.*	*35 - 40 Mins.*	*40 - 45 Mins.*	*45 - 50 Mins.*	*Over 50 Mins.*	*Time (Mins.)*
H-W	10.00%	10.00%	15.00%	20.00%	12.00%	10.00%	8.00%	7.00%	4.00%	2.00%	2.00%	21.45
H-S	20.00%	25.00%	20.00%	15.00%	9.00%	5.00%	2.00%	1.00%	1.00%	1.00%	1.00%	14.45
H-O	10.00%	15.00%	20.00%	15.00%	12.00%	10.00%	7.00%	4.00%	3.00%	2.00%	2.00%	19.78
O-W	20.00%	20.00%	18.00%	15.00%	10.00%	5.00%	3.00%	3.00%	2.00%	2.00%	2.00%	16.60
O-O	15.00%	23.00%	20.00%	15.00%	10.00%	7.00%	4.00%	3.00%	1.00%	1.00%	1.00%	16.17

Source: Tetra Tech, Inc., 1996.

Notes:
H-W = Home-Work trips
H-S = Home-Shopping trips
H-O = Home-Other trips
O-W = Other-Work trips
O-O = Other-Other trips

Table B-29
Travel Speed Patterns for Alternative Reuse Plans

Trip Purpose	Mean Trip Duration (Minutes)	Percent of Travel Time by Speed (MPH) 17.5	27.5	37.5	47.5	60	Mean Distance (Miles)
H-W	21.45	15.0%	25.0%	30.0%	25.0%	5.0%	12.74
H-S	14.45	35.0%	25.0%	20.0%	15.0%	5.0%	7.38
H-O	19.78	30.0%	25.0%	20.0%	15.0%	10.0%	10.80
O-W	16.60	15.0%	20.0%	30.0%	25.0%	10.0%	10.31
O-O	16.17	25.0%	20.0%	25.0%	20.0%	10.0%	9.37

Source: Tetra Tech, Inc., 1996.

Notes: H-W = Home-Work trips
H-S = Home-Shopping trips
H-O = Home-Other trips
O-W = Other-Work trips
O-O = Other-Other trips

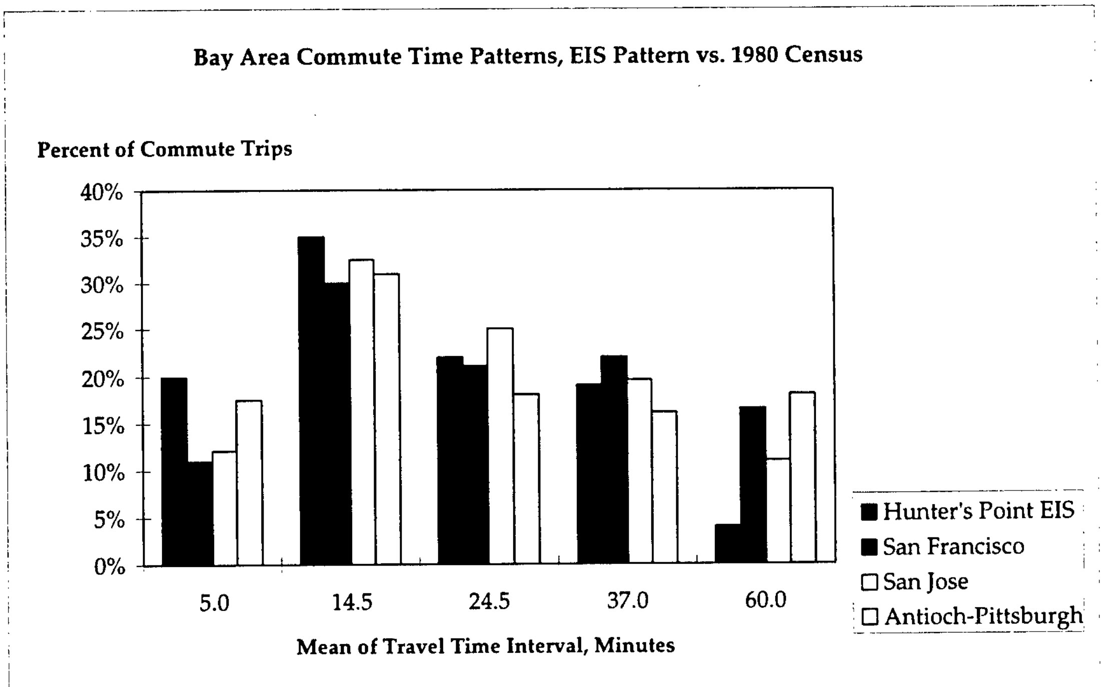
TABLE B-30
Bay Area Commute Trip Travel Time Patterns

Housing Area	Distribution of Travel by Trip Duration Under 10 Minutes	10 - 19 Minutes	20 - 29 Minutes	30 - 44 Minutes	45 Minutes	Mean Travel Time (Mins.)
Hunter's Point EIS/EIR	20.00%	35.00%	22.00%	19.00%	4.00%	20.90
San Francisco-Oakland Area	11.00%	30.10%	20.70%	21.80%	16.40%	27.89
San Jose Urbanized Area	11.98%	32.58%	25.08%	19.68%	10.68%	25.16
Antioch-Pittsburg Area	17.20%	30.80%	18.30%	15.80%	17.90%	26.40
Fairfield Urbanized Area	21.60%	38.10%	12.40%	15.00%	12.90%	22.93
Napa Urbanized Area	23.80%	39.10%	12.80%	13.70%	10.60%	21.42
Santa Rose Urbanized Area	18.42%	44.12%	16.52%	9.92%	11.02%	21.65

Source: Tetra Tech, Inc., 1996.

Notes: Bay Area patterns taken from U.S. Federal Highway Administration, 1985. Bay Area patterns are based on 1980 Census data for urbanized areas. HPS commute times are composited from Table B-28 into the time period categories used for the Bay Area urbanized areas. The use of broader time intervals results in a lower estimated mean trip duration than was developed in Table B-28.

Figure B-4



Source: Tetra Tech, Inc., 1996.

Table B-31
National Average Vehicle Trip Lengths

Trip Purpose	*Mean Trip Length (Miles)* 1977	1983	1990
Work	9.2	8.6	10.9
Work-Related Business	11.9	11.3	14.0
Shopping	4.9	5.3	5.1
School/Church	6.1	5.5	7.4
Doctor/Dentist	10.8	9.8	10.5
Other Personal Business	6.7	6.5	7.2
Vacation	95.4	113.0	80.0
Visit Friends/Relatives	11.2	10.7	11.3
Pleasure Driving	15.7	19.7	20.9
Other Social/Recreational	9.1	8.7	10.1
Other	9.8	7.2	10.7
Overall Average	8.3	7.9	9.0

Source: Tetra Tech, Inc., 1996.

Notes: Data as reported by U.S. Federal Highway Administration (1991) based on in-home travel surveys conducted by the U.S. Census Bureau.

Table B-32
Cumulative Trip Operating Modes (for Total Emissions Analysis)

Trip Type	*Mean Travel Time (Mins.)*	*Mean Cold Start Mode*	*Mean Hot Start Mode*	*Mean Hot Stable Mode*	*Noncat Cold Start Mode*	*Noncat Hot Start Mode*	*Catalyst Cold Start Mode*	*Catalyst Hot Start Mode*
H-W	21.45	48.01%	3.90%	48.09%	41.55%	10.36%	48.08%	3.83%
H-S	14.45	37.18%	33.39%	29.43%	23.72%	46.85%	37.32%	33.24%
H-O	19.78	38.44%	18.02%	43.53%	24.50%	31.97%	38.60%	17.87%
O-W	16.60	41.24%	24.84%	33.92%	26.92%	39.17%	41.39%	24.69%
O-O	16.17	18.82%	46.81%	34.36%	5.42%	60.22%	18.97%	46.67%

Source: Tetra Tech, Inc., 1996.

Notes:
H-W = Home-Work trips
H-S = Home-Shopping trips
H-O = Home-Other trips
O-W = Other-Work trips
O-O = Other-Other trips

In addition to computing the proper weighted average emission rates from EMFAC7F output files, the spreadsheet version of MFAC7F included complete calculations of diurnal and multiday diurnal evaporative emissions. These calculations are normally performed by a separate computer model (BURDEN7F) when CARB prepares emission inventories.

Key input data and assumptions used for the ozone precursor analysis are discussed below.

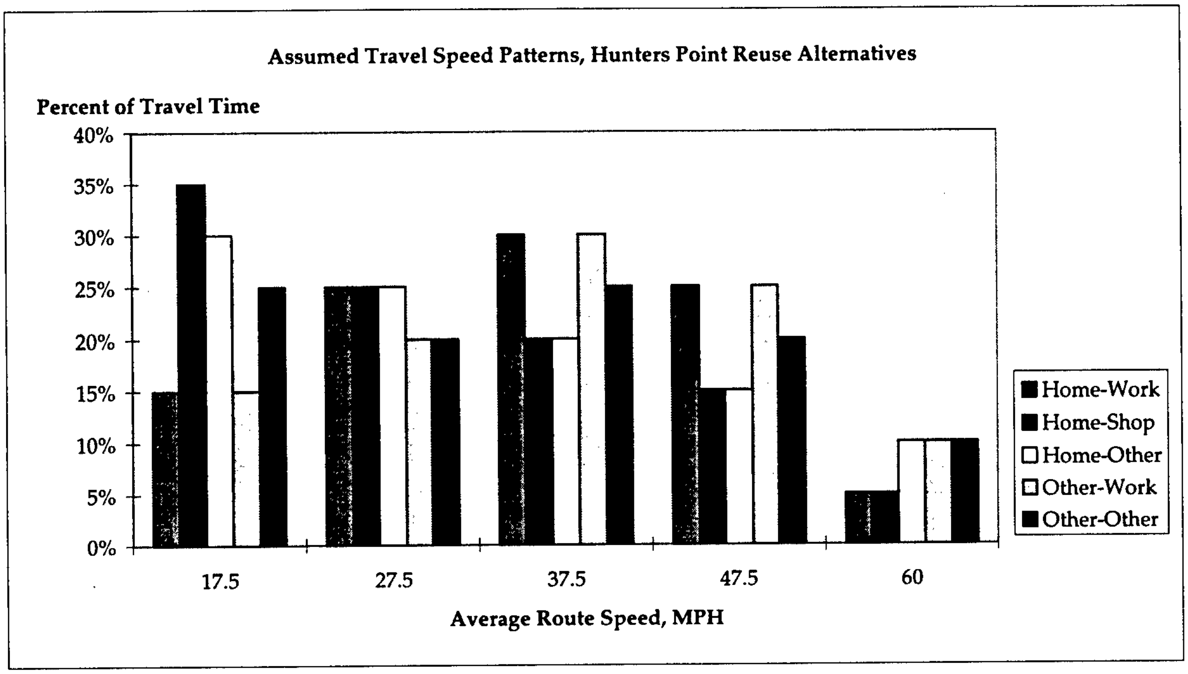
Calendar Years

Emission rates used for this EIS/EIR were for 2010 and 2020. The emission rates for 2020 were used for the buildout (2025) analyses.

Air Temperature

Exhaust emissions were calculated for a mean summer day air temperature of 68 degrees Fahrenheit (20 degrees Celsius). Evaporative emissions were calculated for a daily temperature profile that varied from a low of 55 degrees Fahrenheit (12 degrees Celsius) to a high of 80 degrees Fahrenheit (27 degrees Celsius). Intermediate temperatures used for computing diurnal emissions were: 58 degrees Fahrenheit (14 degrees Celsius) at 8 A.M., 61 degrees Fahrenheit (16 degrees Celsius) at 9 A.M., 71 degrees Fahrenheit (21 degrees Celsius) at 11 A.M., and 76 degrees Fahrenheit (24 degrees Celsius) at 1 P.M.

Figure B-5



Source: Tetra Tech, Inc., 1996.

Vehicle Mixes

Separate vehicle type mixes were used for residential, commercial, and industrial land use categories. The residential vehicle mix included 72.58 percent autos, 23.08 percent light trucks/vans, 2.29 percent medium trucks/vans, 1.03 percent gasoline-fueled heavy duty trucks, 0 percent diesel-fueled heavy duty trucks, and 1.02 percent motorcycles. The commercial vehicle mix included 68.03 percent autos, 21.64 percent light trucks/vans, 2.15 percent medium trucks/vans, 5.16 percent gasoline-fueled heavy duty trucks, 2.06 percent diesel-fueled heavy duty trucks, and 0.96 percent motorcycles. The industrial vehicle mix included 60.52 percent autos, 19.24 percent light trucks/vans, 1.91 percent medium trucks/vans, 7.2 percent gasoline-fueled heavy duty trucks, 10.28 percent diesel-fueled heavy duty trucks, and 0.85 percent motorcycles.

Vehicle Operating Modes

Table B-32 summarizes daily average vehicle operating mode conditions for the trip purpose categories use in the ozone precursor emissions analysis. As indicated by the table, the operating mode conditions were computed directly from the trip duration patterns assumed for this analysis.

Vehicle Speeds

The speed profiles assumed for each trip purpose category were presented previously in Table B-29, and shown graphically in Figure B-5.

Emission Rate Summary Tables

Table B-33 summarizes vehicle emission rates for reactive organic compounds and nitrogen oxides under 2010 conditions. Emission rates are shown by land use category and associated trip types. Traffic generated by industrial, commercial, and open space will have different amounts of truck traffic. The differences in vehicle mix are reflected in the emission rates for other-work and other-other trips. Table B-34 summarizes comparable emission rates under 2025 conditions.

Table B-35 summarizes PM10 and carbon monoxide emission rates for 2010 conditions. Table B-36 summarizes PM10 and carbon monoxide emission rates for 2025 conditions. The PM10 emission rates incorporate the BAAQMD recommended average value for resuspended roadway dust. The estimates of regional vehicle emissions added by the project alternatives assume eight months of summer temperature patterns and four months of winter temperature patterns, as suggested by BAAQMD.

PM_{10} Dispersion Modeling Procedures

Dispersion modeling was performed to evaluate PM10 concentrations generated by local traffic following build-out of the Proposed Reuse Plan. The modeling analysis was performed using the CALINE4 dispersion model and the same modeling network used for the carbon monoxide dispersion modeling analysis discussed previously. Peak hour traffic conditions for the No Action and Proposed Reuse Plan scenarios were modeled as the basis for identifying the maximum net increment of ambient PM10 attributable to traffic added by the Proposed Reuse Plan. To account for exhaust emissions from background truck traffic, an average emission rate of 0.975 grams per vehicle-mile was used for surface streets and an average emission rate of 1.028 grams per vehicle-mile for freeways.

The CALINE4 model is designed for analysis of a 1-hour time period (normally using traffic volumes for the morning or afternoon peak hour). In the case of carbon monoxide, peak 1-hour results normally are extrapolated to an estimated 8-hour average using the ratio of 8-hour to 1-hour ambient carbon monoxide concentrations from the most representative

Table B-33

Summer ROG and NOx Emission Rates for 2010 Conditions

Land Use	Trip Purpose	Exhaust ROG Emission Rates (GM/MI) by Speed (MPH)					Hot Soak ROG Rate	Diurnal ROG Rate	Exhaust NOx Emission Rates (GM/MI) by Speed (MPH)				
		17.5	27.5	37.5	47.5	60.0	GM/Trip	GM/VEH-Day	17.5	27.5	37.5	47.5	60.0
SF and Duplex	H-W	0.42	0.34	0.31	0.29	0.37	0.21	1.24	0.56	0.49	0.51	0.60	0.83
	H-S	0.39	0.31	0.28	0.26	0.34	0.21	1.24	0.58	0.51	0.53	0.62	0.85
	H-O	0.39	0.31	0.28	0.26	0.33	0.21	1.24	0.55	0.48	0.50	0.59	0.82
Live/Work	H-W	0.42	0.34	0.31	0.29	0.37	0.21	1.24	0.56	0.49	0.51	0.60	0.83
	H-S	0.39	0.31	0.28	0.26	0.34	0.21	1.24	0.58	0.51	0.53	0.62	0.85
	H-O	0.39	0.31	0.28	0.26	0.33	0.21	1.24	0.55	0.48	0.50	0.59	0.82
Above Commercial	H-W	0.42	0.34	0.31	0.29	0.37	0.21	1.24	0.56	0.49	0.51	0.60	0.83
	H-S	0.39	0.31	0.28	0.26	0.34	0.21	1.24	0.58	0.51	0.53	0.62	0.85
	H-O	0.39	0.31	0.28	0.26	0.33	0.21	1.24	0.55	0.48	0.50	0.59	0.82
R&D	H-W	0.42	0.34	0.31	0.29	0.37	0.21	1.24	0.56	0.49	0.51	0.60	0.83
	H-S	0.39	0.31	0.28	0.26	0.34	0.21	1.24	0.58	0.51	0.53	0.62	0.85
	O-W	0.49	0.37	0.33	0.30	0.37	0.23	1.35	0.92	0.83	0.85	0.97	1.31
	O-O	0.41	0.29	0.24	0.22	0.29	0.23	1.35	0.88	0.79	0.81	0.93	1.27
Industrial	H-W	0.42	0.34	0.31	0.29	0.37	0.21	1.24	0.56	0.49	0.51	0.60	0.83
	H-S	0.39	0.31	0.28	0.26	0.34	0.21	1.24	0.58	0.51	0.53	0.62	0.85
	O-W	0.74	0.54	0.45	0.40	0.45	0.22	1.31	1.89	1.67	1.68	1.91	2.66
	O-O	0.66	0.47	0.37	0.32	0.37	0.22	1.31	1.86	1.63	1.65	1.87	2.63
Mixed Use	H-W	0.42	0.34	0.31	0.29	0.37	0.21	1.24	0.56	0.49	0.51	0.60	0.83
	H-S	0.39	0.31	0.28	0.26	0.34	0.21	1.24	0.58	0.51	0.53	0.62	0.85
	O-W	0.49	0.37	0.33	0.30	0.37	0.23	1.35	0.92	0.83	0.85	0.97	1.31
	O-O	0.41	0.29	0.24	0.22	0.29	0.23	1.35	0.88	0.79	0.81	0.93	1.27
Cultural/ Education	H-W	0.42	0.34	0.31	0.29	0.37	0.21	1.24	0.56	0.49	0.51	0.60	0.83
	H-O	0.39	0.31	0.28	0.26	0.33	0.21	1.24	0.55	0.48	0.50	0.59	0.82
	O-W	0.49	0.37	0.33	0.30	0.37	0.23	1.35	0.92	0.83	0.85	0.97	1.31
	O-O	0.41	0.29	0.24	0.22	0.29	0.23	1.35	0.88	0.79	0.81	0.93	1.27
Cultural	H-W	0.42	0.34	0.31	0.29	0.37	0.21	1.24	0.56	0.49	0.51	0.60	0.83
	H-O	0.39	0.31	0.28	0.26	0.33	0.21	1.24	0.55	0.48	0.50	0.59	0.82
	O-W	0.49	0.37	0.33	0.30	0.37	0.23	1.35	0.92	0.83	0.85	0.97	1.31
	O-O	0.41	0.29	0.24	0.22	0.29	0.23	1.35	0.88	0.79	0.81	0.93	1.27
	H-W	0.42	0.34	0.31	0.29	0.37	0.21	1.24	0.56	0.49	0.51	0.60	0.83

Table B-33 (Continued)
Summer ROG and NOx Emission Rates for 2010 Conditions

Land Use	Trip Purpose	Exhaust ROG Emission Rates (GM/MI) by Speed (MPH)					Hot Soak ROG Rate	Diurnal ROG Rate	Exhaust NOx Emission Rates (GM/MI) by Speed (MPH)				
		17.5	27.5	37.5	47.5	60.0	GM/Trip	GM/VEH-Day	17.5	27.5	37.5	47.5	60.0
Open Space	H-O	0.39	0.31	0.28	0.26	0.33	0.21	1.24	0.55	0.48	0.50	0.59	0.82
	O-W	0.40	0.32	0.29	0.28	0.35	0.21	1.24	0.58	0.51	0.53	0.61	0.85
	O-O	0.32	0.24	0.21	0.19	0.26	0.21	1.24	0.54	0.47	0.49	0.57	0.81

Notes: ROG = reactive organic compounds

NO_X = nitrogen oxides

H-W = home-work trips

H-S = home-shop trips

H-O = home-other trips

O-W = other-work trips

O-O = other-other trips

Emission rates for 2010 derived from the EMFAC7F vehicle emission rate model.

Emission rates for home-based trip types (H-W, H-S, H-O) reflect a vehicle mix with 1 percent heavy trucks.

Emission rates for other trip types (O-W, O-O) reflect a heavy truck fraction appropriate for the land use (7.2 percent for commercial uses, 17.5 percent for industrial uses, and 1 percent for open-space uses).

Table B-34

Summer ROG and NOx Emission Rates for 2025 Conditions

Land Use	Trip Purpose	Exhaust ROG Emission Rates (GM/MI) By Speed (MPH)					Hot Soak ROG Rate	Diurnal ROG Rate	Exhaust NOx Emission Rates (GM/MI) By Speed (MPH)				
		17.5	27.5	37.5	47.5	60.0	(GM/Trip)	GM/VEH-Day	17.5	27.5	37.5	47.5	60.0
SF and Duplex	H-W	0.28	0.23	0.21	0.20	0.23	0.15	1.20	0.48	0.42	0.43	0.51	0.71
	H-S	0.26	0.21	0.19	0.18	0.21	0.15	1.20	0.50	0.44	0.45	0.53	0.72
	H-O	0.25	0.20	0.18	0.17	0.21	0.15	1.20	0.47	0.42	0.42	0.50	0.70
Live/Work	H-W	0.28	0.23	0.21	0.20	0.23	0.15	1.20	0.48	0.42	0.43	0.51	0.71
	H-S	0.26	0.21	0.19	0.18	0.21	0.15	1.20	0.50	0.44	0.45	0.53	0.72
	H-O	0.25	0.20	0.18	0.17	0.21	0.15	1.20	0.47	0.42	0.42	0.50	0.70
Above Commercial	H-W	0.28	0.23	0.21	0.20	0.23	0.15	1.20	0.48	0.42	0.43	0.51	0.71
	H-S	0.26	0.21	0.19	0.18	0.21	0.15	1.20	0.50	0.44	0.45	0.53	0.72
	H-O	0.25	0.20	0.18	0.17	0.21	0.15	1.20	0.47	0.42	0.42	0.50	0.70
R&D	H-W	0.28	0.23	0.21	0.20	0.23	0.15	1.20	0.48	0.42	0.43	0.51	0.71
	H-S	0.26	0.21	0.19	0.18	0.21	0.15	1.20	0.50	0.44	0.45	0.53	0.72
	O-W	0.35	0.27	0.23	0.21	0.24	0.17	1.31	0.83	0.75	0.77	0.88	1.19
	O-O	0.30	0.22	0.18	0.16	0.19	0.17	1.31	0.80	0.72	0.73	0.84	1.15
Industrial	H-W	0.28	0.23	0.21	0.20	0.23	0.15	1.20	0.48	0.42	0.43	0.51	0.71
	H-S	0.26	0.21	0.19	0.18	0.21	0.15	1.20	0.50	0.44	0.45	0.53	0.72
	O-W	0.61	0.44	0.36	0.32	0.34	0.17	1.27	1.81	1.60	1.61	1.82	2.54
	O-O	0.56	0.40	0.32	0.27	0.29	0.17	1.27	1.78	1.57	1.57	1.79	2.51
Mixed Use	H-W	0.28	0.23	0.21	0.20	0.23	0.15	1.20	0.48	0.42	0.43	0.51	0.71
	H-S	0.26	0.21	0.19	0.18	0.21	0.15	1.20	0.50	0.44	0.45	0.53	0.72
	O-W	0.35	0.27	0.23	0.21	0.24	0.17	1.31	0.83	0.75	0.77	0.88	1.19
	O-O	0.30	0.22	0.18	0.16	0.19	0.17	1.31	0.80	0.72	0.73	0.84	1.15
Cultural/ Educational	H-W	0.28	0.23	0.21	0.20	0.23	0.15	1.20	0.48	0.42	0.43	0.51	0.71
	H-O	0.25	0.20	0.18	0.17	0.21	0.15	1.20	0.47	0.42	0.42	0.50	0.70
	O-W	0.35	0.27	0.23	0.21	0.24	0.17	1.31	0.83	0.75	0.77	0.88	1.19
	O-O	0.30	0.22	0.18	0.16	0.19	0.17	1.31	0.80	0.72	0.73	0.84	1.15

Table B-34 (Continued)
Summer ROG and NOx Emission Rates for 2025 Conditions

Land Use	Trip Purpose	Exhaust ROG Emission Rates (GM/MI) By Speed (MPH)					Hot Soak ROG Rate	Diurnal ROG Rate	Exhaust NOx Emission Rates (GM/MI) By Speed (MPH)				
		17.5	27.5	37.5	47.5	60.0	(GM/Trip)	GM/VEH-Day	17.5	27.5	37.5	47.5	60.0
Cultural	H-W	0.28	0.23	0.21	0.20	0.23	0.15	1.20	0.48	0.42	0.43	0.51	0.71
	H-O	0.25	0.20	0.18	0.17	0.21	0.15	1.20	0.47	0.42	0.42	0.50	0.70
	O-W	0.35	0.27	0.23	0.21	0.24	0.17	1.31	0.83	0.75	0.77	0.88	1.19
	O-O	0.30	0.22	0.18	0.16	0.19	0.17	1.31	0.80	0.72	0.73	0.84	1.15
Open Space	H-W	0.28	0.23	0.21	0.20	0.23	0.15	1.20	0.48	0.42	0.43	0.51	0.71
	H-O	0.25	0.20	0.18	0.17	0.21	0.15	1.20	0.47	0.42	0.42	0.50	0.70
	O-W	0.27	0.21	0.20	0.18	0.22	0.15	1.20	0.49	0.44	0.45	0.52	0.72
	O-O	0.21	0.16	0.14	0.13	0.17	0.15	1.20	0.46	0.40	0.41	0.49	0.68

Notes: ROG = reactive organic compounds
NOx = nitrogen oxides
H-W = home-work trips
H-S = home-shop trips
H-O = home-other trips
O-W = other-work trips
O-O = other-other trips
GM = gram
MPH = miles per hour
VEH = vehicle
Emission rates for 2020 derived from the EMFAC7F vehicle emission rate model; EMFAC7F does not project emission rates to 2025.
Emission rates for home-based trip types (H-W, H-S, H-O) reflect a vehicle mix with 1 percent heavy trucks.
Emission rates for other trip types (O-W, O-O) reflect a heavy truck fraction appropriate for the land use (7.2 percent for commercial uses, 17.5 percent for industrial uses, and 1 percent for open-space uses).

Table B-35

PM_{10} and Summer/Winter CO Emission Rates for 2010 Conditions

Land Use	Trip Purpose	Exhaust PM_{10} Rate (GM/MI)	Entrained PM_{10} Rate (GM/MI)	Summer CO Emission Rates (GM/MI) by Speed (MPH)					Winter CO Emission Rates (GM/MI) by Speed (MPH)				
				17.5	27.5	37.5	47.5	60.0	17.5	27.5	37.5	47.5	60.0
SF and Duplex	H-W	0.01	0.89	5.52	4.54	4.14	4.08	5.71	6.23	5.19	4.75	4.68	6.46
	H-S	0.01	0.89	5.24	4.26	3.86	3.80	5.43	5.86	4.83	4.39	4.32	6.10
	H-O	0.01	0.89	5.15	4.17	3.77	3.71	5.34	5.77	4.73	4.30	4.23	6.00
Live/Work	H-W	0.01	0.89	5.52	4.54	4.14	4.08	5.71	6.23	5.19	4.75	4.68	6.46
	H-S	0.01	0.89	5.24	4.26	3.86	3.80	5.43	5.86	4.83	4.39	4.32	6.10
	H-O	0.01	0.89	5.15	4.17	3.77	3.71	5.34	5.77	4.73	4.30	4.23	6.00
Above Commercial	H-W	0.01	0.89	5.52	4.54	4.14	4.08	5.71	6.23	5.19	4.75	4.68	6.46
	H-S	0.01	0.89	5.24	4.26	3.86	3.80	5.43	5.86	4.83	4.39	4.32	6.10
	H-O	0.01	0.89	5.15	4.17	3.77	3.71	5.34	5.77	4.73	4.30	4.23	6.00
R&D	H-W	0.01	0.89	5.52	4.54	4.14	4.08	5.71	6.23	5.19	4.75	4.68	6.46
	H-S	0.01	0.89	5.24	4.26	3.86	3.80	5.43	5.86	4.83	4.39	4.32	6.10
	O-W	0.03	0.91	5.91	4.66	4.15	4.06	5.70	6.57	5.24	4.70	4.61	6.38
	O-O	0.03	0.91	4.99	3.73	3.23	3.14	4.77	5.45	4.12	3.58	3.49	5.26
Industrial	H-W	0.01	0.89	5.52	4.54	4.14	4.08	5.71	6.23	5.19	4.75	4.68	6.46
	H-S	0.01	0.89	5.24	4.26	3.86	3.80	5.43	5.86	4.83	4.39	4.32	6.10
	O-W	0.12	0.95	6.89	5.15	4.45	4.31	5.89	7.50	5.69	4.95	4.80	6.52
	O-O	0.12	0.95	6.07	4.33	3.63	3.49	5.07	6.51	4.70	3.96	3.81	5.52
Mixed Used	H-W	0.01	0.89	5.52	4.54	4.14	4.08	5.71	6.23	5.19	4.75	4.68	6.46
	H-S	0.01	0.89	5.24	4.26	3.86	3.80	5.43	5.86	4.83	4.39	4.32	6.10
	O-W	0.03	0.91	5.91	4.66	4.15	4.06	5.70	6.57	5.24	4.70	4.61	6.38
	O-O	0.03	0.91	4.99	3.73	3.23	3.14	4.77	5.45	4.12	3.58	3.49	5.26
Cultural/ Educational	H-W	0.01	0.89	5.52	4.54	4.14	4.08	5.71	6.23	5.19	4.75	4.68	6.46
	H-O	0.01	0.89	5.24	4.26	3.86	3.80	5.43	5.86	4.83	4.39	4.32	6.10
	O-W	0.03	0.91	5.91	4.66	4.15	4.06	5.70	6.57	5.24	4.70	4.61	6.38
	O-O	0.03	0.91	4.99	3.73	3.23	3.14	4.77	5.45	4.12	3.58	3.49	5.26
Cultural	H-W	0.01	0.89	5.52	4.54	4.14	4.08	5.71	6.23	5.19	4.75	4.68	6.46
	H-O	0.01	0.89	5.24	4.26	3.86	3.80	5.43	5.86	4.83	4.39	4.32	6.10
	O-W	0.03	0.91	5.91	4.66	4.15	4.06	5.70	6.57	5.24	4.70	4.61	6.38
	O-O	0.03	0.91	4.99	3.73	3.23	3.14	4.77	5.45	4.12	3.58	3.49	5.26

Table B-35 (Continued)
PM_{10} and Summer/Winter CO Emission Rates for 2010 Conditions

Land Use	Trip Purpose	Exhaust PM_{10} Rate (GM/MI)	Entrained PM_{10} Rate (GM/MI)	Summer CO Emission Rates (GM/MI) by Speed (MPH)					Winter CO Emission Rates (GM/MI) by Speed (MPH)				
				17.5	27.5	37.5	47.5	60.0	17.5	27.5	37.5	47.5	60.0
Open Space	H-W	0.01	0.89	5.52	4.54	4.14	4.08	5.71	6.23	5.19	4.75	4.68	6.46
	H-O	0.01	0.89	5.24	4.26	3.86	3.80	5.43	5.86	4.83	4.39	4.32	6.10
	O-W	0.01	0.89	5.37	4.40	3.99	3.93	5.56	6.03	4.99	4.56	4.49	6.26
	O-O	0.01	0.89	4.39	3.41	3.01	2.95	4.58	4.83	3.80	3.36	3.29	5.07

Notes: PM_{10} = inhalable particulate

CO = carbon monoxide

H-W = home-work trips

H-S = home-shop trips

H-O = home-other trips

O-W = other-work trips

O-O = other-other trips

Emission rates for 2010 derived from the EMFAC7F vehicle emission rate model.

Emission rates for home-based trip types (H-W, H-S, H-O) reflect a vehicle mix with 1 percent heavy trucks.

industrial uses, and 1 percent for open-space uses).

industrial uses, and 1 percent for open-space uses).

Entrained PM_{10} emission rates include tire wear plus resuspended roadway dust.

Table B-36

PM_{10} and Summer/Winter CO Emission Rates for 2025 Conditions

Land Use	Trip Purpose	Exhaust PM10 Rate GM/MI	Entrained PM10 Rate GM/MI	Summer CO Emission Rates (GM/MI) By Speed (MPH)					Winter CO Emission Rates (GM/MI) By Speed (MPH)				
				17.5	27.5	37.5	47.5	60.0	17.5	27.5	37.5	47.5	60.0
SF and Duplex	H-W	0.01	0.89	4.30	3.41	3.06	3.01	4.33	4.60	3.66	3.28	3.23	4.66
	H-S	0.01	0.89	4.16	3.27	2.92	2.87	4.19	4.27	3.32	2.95	2.90	4.32
	H-O	0.01	0.89	4.08	3.19	2.84	2.79	4.11	4.27	3.33	2.96	2.90	4.33
Live/Work	H-W	0.01	0.89	4.30	3.41	3.06	3.01	4.33	4.60	3.66	3.28	3.23	4.66
	H-S	0.01	0.89	4.16	3.27	2.92	2.87	4.19	4.27	3.32	2.95	2.90	4.32
	H-O	0.01	0.89	4.08	3.19	2.84	2.79	4.11	4.27	3.33	2.96	2.90	4.33
Above Commercial	H-W	0.01	0.89	4.30	3.41	3.06	3.01	4.33	4.60	3.66	3.28	3.23	4.66
	H-S	0.01	0.89	4.16	3.27	2.92	2.87	4.19	4.27	3.32	2.95	2.90	4.32
	H-O	0.01	0.89	4.08	3.19	2.84	2.79	4.11	4.27	3.33	2.96	2.90	4.33
R&D	H-W	0.01	0.89	4.30	3.41	3.06	3.01	4.33	4.60	3.66	3.28	3.23	4.66
	H-S	0.01	0.89	4.16	3.27	2.92	2.87	4.19	4.27	3.32	2.95	2.90	4.32
	O-W	0.03	0.91	4.83	3.66	3.21	3.14	4.48	5.03	3.80	3.31	3.24	4.68
	O-O	0.03	0.91	4.25	3.09	2.64	2.56	3.90	4.29	3.05	2.57	2.49	3.94
Industrial	H-W	0.01	0.89	4.30	3.41	3.06	3.01	4.33	4.60	3.66	3.28	3.23	4.66
	H-S	0.01	0.89	4.16	3.27	2.92	2.87	4.19	4.27	3.32	2.95	2.90	4.32
	O-W	0.11	0.95	5.91	4.26	3.61	3.47	4.80	6.12	4.40	3.71	3.58	5.00
	O-O	0.11	0.95	5.40	3.75	3.10	2.97	4.29	5.46	3.74	3.05	2.91	4.34
Mixed Use	H-W	0.01	0.89	4.30	3.41	3.06	3.01	4.33	4.60	3.66	3.28	3.23	4.66
	H-S	0.01	0.89	4.16	3.27	2.92	2.87	4.19	4.27	3.32	2.95	2.90	4.32
	O-W	0.03	0.91	4.83	3.66	3.21	3.14	4.48	5.03	3.80	3.31	3.24	4.68
	O-O	0.03	0.91	4.25	3.09	2.64	2.56	3.90	4.29	3.05	2.57	2.49	3.94
Cultural/ Educational	H-W	0.01	0.89	4.30	3.41	3.06	3.01	4.33	4.60	3.66	3.28	3.23	4.66
	H-O	0.01	0.89	4.08	3.19	2.84	2.79	4.11	4.27	3.33	2.96	2.90	4.33
	O-W	0.03	0.91	4.83	3.66	3.21	3.14	4.48	5.03	3.80	3.31	3.24	4.68
	O-O	0.03	0.91	4.25	3.09	2.64	2.56	3.90	4.29	3.05	2.57	2.49	3.94

Table B-36 (Continued)

PM_{10} and Summer/Winter CO Emission Rates for 2025 Conditions

Land Use	Trip Purpose	Exhaust PM10 Rate	Entrained PM10 Rate	Summer CO Emission Rates (GM/MI) By Speed (MPH)					Winter CO Emission Rates (GM/MI) By Speed (MPH)				
		GM/MI	GM/MI	17.5	27.5	37.5	47.5	60.0	17.5	27.5	37.5	47.5	60.0
Cultural	H-W	0.01	0.89	4.30	3.41	3.06	3.01	4.33	4.60	3.66	3.28	3.23	4.66
	H-O	0.01	0.89	4.08	3.19	2.84	2.79	4.11	4.27	3.33	2.96	2.90	4.33
	O-W	0.03	0.91	4.83	3.66	3.21	3.14	4.48	5.03	3.80	3.31	3.24	4.68
	O-O	0.03	0.91	4.25	3.09	2.64	2.56	3.90	4.29	3.05	2.57	2.49	3.94
Open Space	H-W	0.01	0.89	4.30	3.41	3.06	3.01	4.33	4.60	3.66	3.28	3.23	4.66
	H-O	0.01	0.89	4.08	3.19	2.84	2.79	4.11	4.27	3.33	2.96	2.90	4.33
	O-W	0.01	0.89	4.23	3.34	2.99	2.94	4.26	4.40	3.46	3.08	3.03	4.46
	O-O	0.01	0.89	3.62	2.73	2.38	2.33	3.65	3.61	2.66	2.29	2.23	3.66

Notes: PM10 = inhalable particulate
CO = carbon monoxide
H-W = home-work trips
H-S = home-shop trips
H-O = home-other trips
O-W = other-work trips
O-O = other-other trips
Emission rates for 2020 derived from the EMFAC7F vehicle emission rate model; EMFAC7F does not project emission rates to 2025.
Emission rates for home-based trip types (H-W, H-S, H-O) reflect a vehicle mix with 1 percent heavy trucks.
Emission rates for other trip types (O-W, O-O) reflect a heavy truck fraction appropriate for the land use (7.2 percent for commercial uses, 17.5 percent for industrial uses, and 1 percent for open-space uses).
Entrained PM10 emission rates include tire wear plus resuspended roadway dust.

monitoring station. Measured ambient carbon monoxide concentrations integrate the effects of changing meteorological conditions and changing traffic volumes between the 1-hour and 8-hour periods.

In the case of PM10, there are no 1-hour concentration data to allow extrapolation to a 24-hour period. Consequently, the effects of changing meteorological conditions and changing traffic volumes must be estimated separately and applied to the modeled peak hour concentrations in order to estimate expected maximum 24-hour concentrations.

Meteorological considerations were separated into two components: wind speed and stability conditions assumed for the basic 1-hour model run using peak hour traffic, and wind direction changes that typically happen over the course of a 24-hour period (characterized as an averaging time adjustment factor). The basic meteorological conditions assumed for the PM10 modeling were a wind speed of 2.5 meters per second (5.5 mph) and neutral stability (stability class D with a horizontal wind direction fluctuation parameter of 20 degrees). The mixing height limit was kept at 50 meters (164 feet). No settling or deposition velocities were used in the modeling analysis, since distances to receptor points were small (50 feet [15 meters] from roadway centerlines)

The averaging time adjustment for extrapolating 1-hour averages to 24-hour averages was estimated from the averaging time adjustment equation given in Turner (1994). The resulting averaging time adjustment factor of 52 percent is considered conservative. State sulfur dioxide standards have been established for both 1-hour and 24-hour periods. Monitoring data for 1-hour and 24-hour sulfur dioxide levels typically show that peak 24-hour values are 10 to 25 percent of peak 1-hour values. Because sulfur dioxide emissions come primarily for stationary industrial facilities rather than broadly distributed traffic conditions, the more conservative 52 percent factor has been used in this analysis.

If used in isolation, the averaging time adjustment factor would inherently assume that traffic volumes and emissions remain constant for 24 hours. That is clearly not the case, so an additional adjustment is necessary to account for differences between peak hour traffic volumes and traffic volumes averaged over a 24-hour period.

For purposes of this analysis, it was assumed that afternoon peak hour traffic volumes represent 10 percent of total daily traffic; average daily traffic would be 10 times the peak hour volume. These assumptions yield a traffic volume adjustment factor of 41.7 percent. The combined adjustment factor applied to peak hour modeling results was 21.7 percent (52 percent times 41.7 percent).

Table B-37 summarizes the PM10 modeling results by receptor location for the Proposed Reuse Plan at full build-out in 2025. Table B-38 provides analagous information for the No Action Alternative in 2025. For ease of comparison, Table B-39 provides the net increase resulting from the Proposed Reuse Plan versus No Action in 2025.

Table B-37

PM_{10} from Exhaust, Tire Wear, and Resuspended Dust: Proposed Reuse Plan, 2025 Conditions

Wind	PM_{10} Concentrations (Micrograms Per Cubic Meter) by Receptor											
Direction	1	2	3	4	5	6	7	8	9	10	11	12
0	31.9	111.5	70.9	168.3	57.5	95.0	64.7	116.7	0.0	26.5	17.4	17.2
10	59.4	98.0	97.1	156.2	75.1	71.1	78.1	93.9	0.2	27.5	18.6	16.6
20	87.2	60.9	122.1	121.5	90.0	43.7	90.9	61.6	2.2	28.0	20.0	15.6
30	99.6	26.9	130.8	87.4	85.7	19.1	87.5	32.9	7.9	25.2	22.5	15.4
40	98.4	7.6	129.0	68.6	73.4	7.3	78.5	18.8	16.7	18.2	24.2	15.5
50	91.2	1.5	125.8	65.1	64.3	4.7	72.0	15.8	24.7	9.6	26.7	16.1
60	83.5	0.3	123.3	65.4	57.9	4.6	68.7	16.1	28.4	3.5	27.5	15.8
70	76.9	0.0	122.5	68.4	54.5	4.5	69.8	16.7	28.4	1.2	25.4	13.2
80	73.2	0.0	128.8	75.1	51.9	4.1	71.9	18.0	27.6	0.8	20.4	8.1
90	70.5	0.0	132.2	82.5	49.9	4.9	72.8	20.2	25.5	0.9	15.7	3.2
100	69.5	2.7	132.9	88.3	51.6	7.2	71.6	22.7	23.3	1.4	13.6	0.7
110	82.1	15.2	137.4	93.1	55.0	9.2	73.3	23.0	25.3	4.1	14.2	0.0
120	114.4	44.0	135.7	87.0	62.1	12.8	73.4	20.3	33.0	11.1	16.1	0.0
130	150.9	77.9	117.0	63.8	68.6	16.5	69.3	13.5	45.0	21.7	17.0	0.0
140	164.1	94.3	89.0	32.8	71.8	17.2	63.7	5.5	56.4	31.7	17.8	0.8
150	160.7	93.5	70.7	10.0	75.5	16.4	63.4	1.3	61.9	37.1	17.4	3.6
160	151.3	87.2	71.1	3.4	78.8	15.9	69.4	0.8	62.0	38.6	14.4	9.0
170	145.4	85.5	77.4	6.6	80.6	19.0	75.9	4.4	60.7	38.8	8.8	14.6
180	140.5	95.7	87.4	25.1	82.4	35.8	82.9	20.3	54.0	35.3	3.5	17.5
190	145.5	133.5	99.8	67.0	86.2	75.0	91.5	57.7	47.1	31.2	0.7	17.8
200	141.4	182.8	100.8	119.3	89.1	124.4	92.5	109.8	43.0	29.3	0.0	17.0
210	131.5	210.7	94.1	148.2	80.2	145.8	79.4	135.3	41.2	28.7	0.0	16.1
220	126.6	219.6	89.2	156.9	65.5	139.8	61.1	131.8	42.5	29.1	0.0	14.1
230	123.4	217.4	85.7	153.6	57.6	127.2	51.1	120.6	50.7	37.6	1.2	14.1
240	109.2	200.4	72.2	136.7	54.6	117.7	47.0	110.9	68.4	57.6	9.4	21.9
250	81.6	167.6	42.8	103.7	54.1	112.1	45.3	104.6	87.4	82.9	27.0	39.3
260	66.8	148.1	20.5	76.6	55.1	110.5	45.4	101.6	101.3	104.4	44.6	58.0
270	65.8	142.2	15.5	67.9	52.9	103.7	42.8	96.8	105.1	113.5	53.0	70.1
280	68.4	137.6	17.6	66.8	50.2	95.4	37.7	88.4	104.5	115.4	55.1	75.9
290	66.7	134.3	26.1	74.2	52.9	97.9	40.7	89.6	97.6	111.3	53.7	76.4
300	56.2	127.8	41.4	91.5	49.4	96.9	45.4	96.1	81.4	99.6	48.1	67.8
310	40.0	114.0	60.0	116.0	37.4	86.9	42.5	96.5	61.0	81.1	42.1	53.9
320	27.4	102.8	71.6	136.0	29.6	81.8	39.2	97.1	37.9	58.2	40.3	45.5
330	18.3	96.7	70.7	149.0	28.8	86.5	39.1	103.7	14.1	34.1	36.5	36.8
340	10.6	97.3	61.2	154.3	35.8	97.5	45.4	115.6	2.2	23.5	26.0	24.3
350	12.3	104.5	57.3	163.7	48.2	105.6	56.7	126.6	0.1	24.1	18.6	17.9
Max 1-HR:	164.1	219.6	137.4	168.3	90.0	145.8	92.5	135.3	105.1	115.4	55.1	76.4
24-HR ADJ:	85.3	114.2	71.4	87.5	46.8	75.8	48.1	70.4	54.7	60.0	28.7	39.7
Traffic ADJ:	35.6	47.6	29.8	36.5	19.5	31.6	20.0	29.3	22.8	25.0	11.9	16.6

Table B-37 (Continued)

PM_{10} from Exhaust, Tire Wear, and Resuspended Dust: Proposed Reuse Plan, 2025 Conditions

Averaging time adjustment factor = 0.52; Traffic volume adjustment factor = 0.417.

Road network, traffic volumes, and receptor locations as described for carbon monoxide modeling.

Modeled meteorological conditions: D stability, sigma theta = 20 degrees, 2.5 meter/second wind speed, 50-meter mixing height limit, wind directions varied in 10-degree increments.

Adjustment factors applied to modeling results for peak hour traffic:

Averaging time adjustment: 1-Hr averaging to 24-Hr averaging = 0.52

Traffic volume adjustment: Pk-Hr volumes to 24-Hr average volumes = [(1/24)*ADT]/[(1/10)*ADT] = 0.417

Combined adjustment = 0.217 times peak hour value

Modeled locations (50 feet from roadway centerlines):

Receptors 1 - 4: NW, SW, NE, SE corners of Evans and Third Streets

Receptors 5 - 8: NW, SW, NE, SE corners of Palou Avenue and Third Street

Receptors 9 & 10: NW, NE corners of Innes Avenue and Donahue Street

Receptors 11 & 12: SW, SE corners of H Street and Spear Avenue

Table B-38

PM_{10} from Exhaust, Tire Wear, and Resuspended Dust: No Action, 2025 Conditions

Wind	PM10 Concentrations (Micrograms Per Cubic Meter) by Receptor											
Direction	1	2	3	4	5	6	7	8	9	10	11	12
0	22.4	77.4	48.9	108.1	54.1	91.1	61.5	106.3	0.0	2.7	1.8	1.5
10	41.4	68.2	67.2	97.4	70.0	65.8	73.4	82.9	0.0	2.9	1.8	1.4
20	60.6	42.4	85.2	71.2	84.2	38.5	85.4	51.5	0.3	3.1	1.8	1.3
30	68.9	18.7	91.8	46.6	81.1	15.3	82.8	24.6	0.9	2.9	1.8	1.2
40	67.9	5.2	90.7	33.2	69.9	4.2	74.1	11.2	1.9	2.1	1.8	1.3
50	62.7	1.0	87.6	30.2	61.2	1.6	66.8	8.2	2.8	1.1	1.9	1.3
60	57.1	0.2	84.7	30.2	54.7	1.4	62.0	8.2	3.1	0.4	2.0	1.3
70	52.6	0.0	83.0	31.6	51.3	1.1	61.1	8.4	3.0	0.1	1.8	1.1
80	50.0	0.0	85.8	34.7	48.6	0.7	60.9	9.0	2.8	0.1	1.4	0.7
90	48.1	0.0	86.4	38.4	45.6	0.5	58.8	9.6	2.6	0.1	0.9	0.3
100	46.6	1.1	84.8	41.0	45.4	0.9	55.0	10.2	2.3	0.1	0.7	0.1
110	51.6	6.2	85.6	42.3	48.0	2.3	56.6	10.8	2.5	0.4	0.7	0.0
120	65.9	17.7	83.6	37.3	54.4	5.6	58.5	10.3	3.2	1.0	0.8	0.0
130	83.7	31.6	74.0	24.9	60.6	8.9	57.9	7.2	4.3	2.0	0.9	0.0
140	93.7	40.1	62.7	11.4	64.6	10.2	55.9	3.1	5.3	2.8	1.0	0.0
150	98.7	42.1	58.0	3.2	69.2	9.9	57.1	0.8	5.7	3.2	1.0	0.2
160	100.4	40.5	62.7	1.6	73.0	9.7	62.9	0.7	5.6	3.2	0.8	0.5
170	103.6	41.5	69.6	5.4	75.2	12.7	68.5	3.9	5.4	3.1	0.5	0.8
180	108.0	54.9	79.7	22.9	76.5	28.2	74.7	18.1	4.9	2.8	0.2	1.0
190	118.8	92.2	92.3	62.4	80.0	64.7	83.0	52.3	4.4	2.5	0.0	1.0
200	121.1	139.3	95.1	112.0	83.9	111.4	85.7	101.0	4.0	2.4	0.0	0.9
210	115.3	165.8	90.3	139.5	77.3	132.8	75.6	125.7	3.8	2.3	0.0	0.8
220	111.5	174.0	86.0	147.6	64.3	128.4	59.4	123.1	4.8	3.0	0.0	0.7
230	108.0	171.2	82.6	144.0	56.9	117.7	50.1	113.0	11.5	9.4	1.1	1.8
240	93.7	154.7	69.2	127.4	53.9	110.1	46.1	104.1	27.4	25.2	8.8	9.4
250	66.4	123.7	40.7	95.6	53.4	106.5	44.5	98.2	43.8	42.4	25.4	26.0
260	50.7	104.3	19.3	69.8	54.4	106.6	44.6	95.6	52.0	51.9	41.9	42.6
270	49.0	99.4	14.6	61.7	52.0	101.3	41.8	90.8	52.8	53.5	49.2	50.1
280	51.0	96.7	16.0	60.3	48.6	93.6	36.2	82.2	48.8	50.0	48.4	49.4
290	50.2	95.3	22.1	65.4	50.5	95.8	38.5	82.8	40.5	42.0	42.3	43.3
300	43.2	91.7	33.0	77.7	46.9	94.7	43.0	89.0	30.5	32.5	33.3	33.9
310	32.3	82.8	46.2	93.9	35.5	85.2	40.6	89.6	23.4	25.5	25.4	25.5
320	23.7	75.1	54.4	105.1	27.9	80.3	37.7	90.1	15.8	17.8	19.5	19.1
330	16.8	70.1	53.1	109.8	27.2	85.0	37.6	96.1	6.5	8.4	12.5	11.7
340	9.6	68.8	44.6	107.3	33.8	95.4	43.6	107.1	1.2	3.3	5.5	4.8
350	9.2	72.6	40.0	107.9	45.6	102.7	54.3	116.9	0.0	2.5	2.3	1.9
Max 1-HR:	121.1	174.0	95.1	147.6	84.2	132.8	85.7	125.7	52.8	53.5	49.2	50.1
24-HR ADJ:	63.0	90.5	49.5	76.8	43.8	69.1	44.6	65.4	27.5	27.8	25.6	26.1
Traffic ADJ:	26.2	37.7	20.6	32.0	18.2	28.8	18.6	27.2	11.4	11.6	10.7	10.9

Table B-38 (Continued)

PM_{10} from Exhaust, Tire Wear, and Resuspended Dust: No Action, 2025 Conditions

Averaging time adjustment factor = 0.52; Traffic volume adjustment factor = 0.417.

Road network, traffic volumes, and receptor locations as described for carbon monoxide modeling.

Modeled meteorological conditions: D stability, sigma theta = 20 degrees, 2.5 meter/second wind speed, 50-meter mixing height limit, wind directions varied in 10-degree increments.

Adjustment factors applied to modeling results for peak hour traffic:

Averaging time adjustment: 1-Hr averaging to 24-Hr averaging = 0.52

Traffic volume adjustment: Pk-Hr volumes to 24-Hr average volumes = [(1/24)*ADT]/[(1/10)*ADT] = 0.417

Combined adjustment = 0.217 times peak hour value

Modeled locations (50 feet from roadway centerlines):

Receptors 1 - 4: NW, SW, NE, SE corners of Evans and Third Streets

Receptors 5 - 8: NW, SW, NE, SE corners of Palou Avenue and Third Street

Receptors 9 & 10: NW, NE corners of Innes Avenue and Donahue Street

Receptors 11 & 12: SW, SE corners of H Street and Spear Avenue

Table B-39

PM_{10} from Exhaust, Tire Wear, and Resuspended Dust: Net Increase, Proposed Reuse vs. No Action, 2025 Conditions

	Net Increase in PM_{10} Concentrations (Micrograms Per Cubic Meter) by Receptor											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Max 1-HR:	43.0	45.6	42.3	20.7	5.8	13.0	6.8	9.6	52.3	61.9	5.9	26.3
24-HR ADJ:	22.4	23.7	22.0	10.8	3.0	6.8	3.5	5.0	27.2	32.2	3.1	13.7
Traffic ADJ:	9.3	9.9	9.2	4.5	1.3	2.8	1.5	2.1	11.3	13.4	1.3	5.7
Max 24-HR:	9.3	9.9	9.2	4.5	1.3	2.8	1.5	2.1	11.3	13.4	1.3	5.7

Road network, traffic volumes, and receptor locations as described for carbon monoxide modeling.

Modeled meteorological conditions: D stability, sigma theta = 20 degrees, 2.5 meter/second wind speed, 50-meter mixing height limit, wind directions varied in 10-degree increments.

Adjustment factors applied to modeling results for peak hour traffic:

Averaging time adjustment: 1-Hr averaging to 24-Hr averaging = 0.52

Traffic volume adjustment: Pk-Hr volumes to 24-Hr average volumes = [(1/24)*ADT]/[(1/10)*ADT] = 0.417

Combined adjustment = 0.217 times peak hour value

Modeled locations (50 feet from roadway centerlines):

Receptors 1 - 4: NW, SW, NE, SE corners of Evans and Third Streets

Receptors 5 - 8: NW, SW, NE, SE corners of Palou Avenue and Third Street

Receptors 9 & 10: NW, NE corners of Innes Avenue and Donahue Street

Receptors 11 & 12: SW, SE corners of H Street and Spear Avenue

References

Benson, P. E. 1989. CALINE4 - *A Dispersion Model for Predicting Air Pollutant Concentrations Near Roadways*. 1984 Final Report with 1986 and 1989 Revisions. FHWA/CA/TL-84/15. California Department of Transportation. Sacramento, CA. 1989.

California Air Resources Board (CARB). 1992. BURDEN7C: *Methodology for Estimating Emissions from On-road Motor Vehicles*. Technical Support Division. Sacramento, CA. 1992.

_____. 1993. *Methodology for Estimating Emissions from On-road Motor Vehicles. Volume I*: EMFAC7F. *Draft*. Technical Support Division. Sacramento, CA. 1993.

_____. 1993a. California Air Resources Board, *Methodology for Estimating Emissions from On-road Motor Vehicles. Volume II: WEIGHT(E7FWT). Draft* Technical Support Division. Sacramento, CA. 1993.

_____. 1993b. *Methodology for Estimating Emissions from On-road Motor Vehicles. Volume III: BURDEN7F- Draft*. Technical Support Division. Sacramento, California. 1993.

California Department of Transportation (Caltrans). 1981. *The 1976-1980 Statewide Travel Survey*. Division of Transportation Planning. Sacramento, California. 1981.

_____. 1992. *1991 Statewide Travel Survey: Summary of Findings*. Office of Traffic Improvement. Sacramento, California. 1992.

Sculley, R. D. 1989. "Vehicle Emission Rate Analysis for Carbon Monoxide Hot Spot Modeling." JAPCA 39(10):1334-1343. 1989.

Smith, M. and T. Aldrich. 1977. *Development of Revised Light-Duty-Vehicle Emission-Average Speed Relationships*. (EPA-460/3-77-011.) U.S. Environmental Protection Agency, Office of Mobile Source Air Pollution Control. Ann Arbor, MI. 1977.

Tetra Tech, Inc. 1996. Air Quality Analysis in support of the *Draft Environmental Impact Statement/Environmental Impact Report for the Disposal and Reuse of the Former Naval Shipyard Hunters Point*. 1996.

Turner, D. Bruce. 1994. *Workbook of Atmospheric Dispersion Estimates: An Introduction to Dispersion Modeling*. Second Edition. Lewis Publishers. Boca Raton, FL.

U.S. Federal Highway Administration. 1985. *Transportation Planning Data for Urbanized Areas Based on the 1980 Census*. (DOT-1-85-20). Office of Highway Planning. Washington, DC. 1985.

_____. 1991. *1990 Nationwide Personal Transportation Study: Early Results*. Office of Highway Information Management. Washington, DC. 1991.

WeatherDisc Associates, Inc. 1990. "Local Climatological Data (TD-9648)." World WeatherDisc Version 2.1. Seattle, WA. 1990.

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
THIRTY VAN NESS AVENUE, SUITE 2011
SAN FRANCISCO, CALIFORNIA 94102-6080
PHONE: (415) 557-3686

LETTER OF AGREEMENT FOR CONSISTENCY DETERMINATION NO. CN 1-99

March 8, 1999

United States Department of the Navy
Engineering Field Activity, West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066-5006

ATTENTION: John H. Kennedy, Head,
Environmental and Installations Planning

Ladies and Gentlemen:

I. Agreement

A. The San Francisco Bay Conservation and Development Commission agrees with the determination of the United States Department of the Navy that the following project is consistent with the Commission's Amended Management Program for San Francisco Bay:

Location: In the Bay and within the 100-foot shoreline band, in the southeast portion of the San Francisco waterfront at the Hunters Point Shipyard, in the City and County of San Francisco.

Description: Transference of the Hunters Point Shipyard to the City and County of San Francisco and the San Francisco Redevelopment Agency for local reuse of the property. Only maritime activities consistent with the port priority use designation would occur at the port priority use area at the Hunters Point Shipyard. A variety of uses would occur on the property located outside of the port priority use area. Environmental response actions necessary for reuse of the Hunters Point Shipyard, such as the clean-up of contaminated sediments, would occur independently from the property transfer pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Although under CERCLA the Navy does not formally prepare and submit a consistency determination for the selected response action, the Navy is required by law to meet the substantive requirements of the Coastal Zone Management Act and would do so by considering the McAteer-Petris

Act and the Bay Plan policies for any work in BCDC's jurisdiction. All reuse activities occurring after the property transfer would be subject to BCDC permitting requirements.

B. This agreement is given based on the information submitted by or on behalf of the United States Department of the Navy, in its letters dated January 12, 1999, and February 16, 1999.

II. Findings and Declarations

A. On January 12, 1999, and February 16, 1999, the United States Department of the Navy submitted a description of the project and requested that the Commission concur that the proposed project is consistent with its Amended Coastal Zone Management Program for San Francisco Bay. Based on the information contained in those materials, the proposed project is hereby found to be consistent with the provisions of the McAteer-Petris Act and the policies of the San Francisco Bay Plan in that: (1) the designated port priority use area would only be used for maritime activities consistent with the Seaport Plan after the transfer of the Hunters Point Shipyard to the City and County of San Francisco and the San Francisco Redevelopment Agency for local reuse of the property; (2) the environmental response actions required for reuse of the site would meet the substantive requirements of the Coastal Zone Management Act by considering the McAteer-Petris Act and the Bay Plan policies for any work in BCDC's jurisdiction; and (3) all reuse activities occurring after the property transfer would be subject to BCDC permitting requirements.

B. A programmatic Revised Draft Environmental Impact Statement/Environmental Impact Report, issued by the United States Department of the Navy and the City and County of San Francisco, was prepared to assess the environmental impacts of the disposal and reuse of the Hunters Point Shipyard. The document states that no adverse environmental impacts would result from the transfer of Hunters Point Shipyard from the United States Department of the Navy to the City and County of San Francisco and the San Francisco Redevelopment Agency for local reuse of the property.

C. The Commission, pursuant to the Coastal Zone Management Act of 1972, as amended (16 USC Section 1451), and the implementing Federal Regulations in 15 CFR Part 930, is required to review Federal projects within San Francisco Bay and agree or disagree with the Federal agency's determination that the project is consistent with the Commission's Amended Coastal Zone Management Program for San Francisco Bay. This letter constitutes such review and comment.

D. This project was listed with the Commission on February 19, 1999, at which time no Commissioner or other party objected to the project.

Executed in San Francisco, California, on behalf of the San Francisco Bay Conservation and Development Commission on the date first above written.

WILL TRAVIS
Executive Director

WT/AG/ra
cc: U.S. Army Corps of Engineers, Attn: Regulatory Functions Branch
San Francisco Bay Regional Water Quality Control Board,
Attn: Certification Section
Environmental Protection Agency, Attn: Mike Monroe, W-3-3

Memorandum of Agreement
Among
The United States Navy, The Advisory Council on Historic Preservation and The California State Historic Preservation Officer Regarding the Interim Leasing and Disposal of Historic Properties on the Former Hunters Point Naval Shipyard, San Francisco, California

WHEREAS, the Department of the Navy (Navy) has been directed to close and dispose of its property at the former Hunters Point Naval Shipyard (Shipyard) by the Base Realignment and Closure Act, as amended in 1991, and Drydock 4 and the Hunters Point Commercial Drydock Historic District, are Shipyard properties eligible for inclusion in the National Register of Historic Places (Register); and

WHEREAS, both historic properties were important elements of the ship building and repair industry, an significant economic force in San Francisco's history, from the mid-Nineteenth Century through the end of World War II; and

WHEREAS, the Shipyard is located within the limits of the City and County of San Francisco (City), a Certified Local Government under Section 101(c) of the National Historic Preservation Act (Act), as amended; and

WHEREAS, the Navy may transfer the Shipyard to the San Francisco Redevelopment Agency (Agency), the Local Redevelopment Authority, pursuant to Public Law 103-160 § 2834, by which the Agency would obtain fee title to the Shipyard; and

WHEREAS, the Navy has consulted with the Advisory Council on Historic Preservation (Council) and the California State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470f); and

WHEREAS, upon disposal of the historic properties from the Navy to a non-federal entity, any Federal jurisdiction ceases and the jurisdiction of the historic property would revert exclusively to the City, the Agency, or the City's designee, and therefore, the City and the Agency have been invited to participate in the development of this agreement and have been invited to concur; and

NOW, THEREFORE, the Navy, the Council and the California SHPO agree that interim leasing and disposal of the Shipyard historic properties shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

Stipulations

The Navy will ensure that the following measures are carried out:

1. National Register Nomination.

a. The Navy has evaluated all the buildings and structures on the Shipyard in consultation with the California SHPO and found that only the Hunters Point Commercial Drydock Historic District and Drydock 4 possess sufficient integrity and meet the criteria (36 CFR § 60.4) for inclusion in the Register.

b. The Navy will prepare Registration Forms for the Hunters Point Commercial Drydock Historic District and Drydock 4 and nominate these two properties to the Secretary of the Interior for inclusion in the Register as is required by Section 110(a)(2) of the National Historic Preservation Act (16 U.S.C. 470h-2).

2. Archeology

a. The Navy has completed an *Archeological Inventory and Assessment of Hunters Point Shipyard* (February 1998) that identifies where prehistoric sites were located by surveys in the early 1900s and where archeological remains of historic activities might be found buried deep beneath the fill on which the Shipyard is constructed. These locations are within the Archeologically Sensitive Zones identified on Exhibit I to this agreement document.

b. It is unlikely that significant archeological resources that would qualify for listing in the National Register will be discovered while excavating in the Archeologically Sensitive Zones (Exhibit I). However, in the event of a discovery during any excavation within the Archeologically Sensitive Zones that is authorized by the Navy, the contractor will be required to stop work in area of the discovery immediately and notify the Navy of the discovery." The Navy will have the discovery site evaluated by a professional archeologist, and in consultation with the SHPO, if the discovery is determined to qualify for listing on the Register, the Navy will develop and implement an appropriate treatment plan before authorizing the excavation or construction responsible for the discovery to proceed.

3. Historic Artifacts and Records.

The Navy has coordinated the disposal of the remaining Shipyard records, drawings, plans and photographs with the National Archives Pacific-Sierra Region, San Bruno, and has transferred those photographs and records requested by the National Archives.

4. Layaway, Caretaker Maintenance, and Recordation.

a. **Drydock 4:** On August 25, 1994 the Council accepted a Memorandum of Agreement (Exhibit II) between the Navy and the SHPO with respect to the abandonment of Drydock 4, if the Navy could not lease that facility within a reasonable time. The Navy was able to lease that facility for a period of five years with options for additional five-year periods. However, should that lease be terminated and the Navy is not able to renew or secure a new tenant in a reasonable time it will not be possible to layaway and continue to maintain that facility because of the expense in treating ground and Bay water infiltration and maintaining the operational equipment. At that time the Navy will have to abandon the facility. Drydock 4 has been documented in accordance with the standards of the Historic American Engineering Record (HAER) and the documentation accepted by the National Park Service for placing in the Library of Congress.

b. **Hunters Point Commercial Drydock Historic District:** When this facility was returned to the Navy in the mid-1980s, the drydocks were found not to meet the Navy standard for drydocks because of concerns for its seismic stability. Having no requirement for the facility the Navy was not able to expend the funds required to meet the drydock standard or to maintain the facility. Since that time the property has not been maintained, although windows and doors on the four contributing buildings have been secured to prevent further vandalism. The drydocks and contributing historic buildings still possess sufficient integrity to convey a sense of their historic use, even though they have deteriorated to a point from which they can no longer be restored for their historic use. Therefore, no further action can be taken by the Navy to layaway or maintain this facility. Prior to the disposal of this property the Navy shall contact the Pacific-Great Basin System Support Office, National Park Service (NPS), San Francisco, California to determine what level and kind of recordation is required for the property. Unless otherwise agreed to by NPS, the Navy shall ensure that all documentation is complete and accepted by the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER). Copies of the documentation shall be provided to the California SHPO, the Agency, the

City, the City's designee, and the San Francisco Public Library.

5. Leasing of Historic Properties.

a. Prior to the transfer, sale or conveyance by some other means from the control and jurisdiction of the Navy, the Navy may enter into interim leases which will permit tenants to adaptively reuse Shipyard's National Register eligible properties, provided that the lease agreements require tenants to follow the recommended practices of the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Standards)* in maintaining or adapting these historic properties for use.

b. Until the Shipyard's National Register eligible properties are transferred, sold or conveyed by some other means from the control and jurisdiction of the Navy, the Navy shall require the Agency to seek the comments of the San Francisco Landmarks Preservation Advisory Board prior to seeking Navy approval for adaptive reuses of Drydock 4 and the Hunters Point Commercial Drydock Historic District.

6. Long-Term Preservation Planning.

a. The Agency and Board of Supervisors have adopted the *Hunters Point Shipyard Redevelopment Plan* (July14, 1997) that identifies Drydock 4 and the Hunters Point Commercial Drydock Historic District as important historic resources.

b. The *Redevelopment Plan* and the *Design for Development, Hunters Point Shipyard Redevelopment Project,* approved by the City Planning Commission and the Redevelopment Agency Commission (August 1997) includes requirements and procedures to encourage the preservation of these historic resources, including prohibition against demolition and standards for alteration that conform to the Secretary of the Interior's *Standards.*

c. The Agency in implementing the *Redevelopment Plan* shall consult with the San Francisco Landmarks Preservation Advisory Board (LPAB) and the San Francisco Planning Department in its capacity as a Certified Local Government, in furtherance of the historic preservation policy established by 6.b.

d. When title to Drydock 4 and the Hunters Point Commercial Drydock Historic District are transferred from the Navy to a non-federal entity all undertakings affecting these properties shall be administered in accordance with the implementing mechanisms of the *Redevelopment Plan.*

e. The City, the Agency, or the City's designee, shall apprise prospective tenants and property owners of the financial and economic incentives available for the adaptive rehabilitation of Drydock 4 and the Hunters Point Commercial Drydock Historic District.

f. The City, the Agency, or the City's designee, will apply the State Historic Building Code to any efforts to rehabilitate and adaptively reuse reuse Drydock 4 and the Hunters Point Commercial Drydock Historic District.

7. Document Review and Comment.

The California SHPO shall be afforded thirty (30) days after receipt to comment on any documentation submitted by the Navy as a result of consultation efforts or otherwise the result of implementation of this agreement. Should the California SHPO decline to participate or fail to respond within thirty (30) days to a written request for comments, the Navy shall continue to consult with the Council to complete its responsibilities for the specific action.

8. Annual Report and Review.

a. On or before December 15 of each year, until the terms of this agreement have been fulfilled, or the agreement has been terminated, the Navy shall provide an annual report to the Council, California SHPO, the Agency and City addressing following topics:

(1) status of the Register nominations for Drydock 4 and the Hunters Point Commercial Drydock Historic District.

(2) status of the HAER documentation for the Hunters Point Commercial Drydock Historic District.

(3) list and explain any problems or unexpected issues encountered during the previous year related to the management of the extant historic resources.

9. Resolving Objections.

a. Should any party to this agreement object to any action carried out or proposed by the Navy with respect to the implementation of this agreement, the Navy shall consult with the objecting party to resolve the objection. If, after entering into such consultation, the Navy determines that the objection cannot be resolved through consultation directly with the objecting party, the Navy shall forward all relevant documentation to the Council, including the Navy's proposed response to the objection. The Council shall exercise one of the following options within 30 calendar days of receipt of all pertinent documentation:

(1) advise the Navy in writing that the Council concurs with the Navy's proposed response and final decision, if so indicated, whereupon the Navy shall respond to the objecting party in writing; or

(2) provide the Navy with written recommendations and/or comments, which the Navy shall take into account in reaching its final decision regarding its response to the objection in accordance with 36 CFR 800.6; or

(3) notify the Navy in writing that the Council will provide written comments within a specified time frame pursuant to 36 CFR 800.6. The resulting comments shall be taken into account by the Navy in accordance with 36 CFR 800.6(c).

b. Should the Council fail to exercise one of the above options within 30 calendar days after receipt of all pertinent documentation, the Navy may assume the Council concurrence in the Navy's proposed response. In considering any party's comments, the Navy shall take into account any recommendation or comment with reference only to the subject of the objection. The Navy's responsibility to carry out all actions under this agreement that are not the subject of the objection shall remain unchanged and shall be executed accordingly.

c. At any time during implementation of the stipulations of this agreement, should objection(s) pertaining to this agreement be raised by a member of the public, the Navy shall notify in writing the signatory parties to this agreement and take the objection into account. The Navy shall consult with the objector and, if requested by the objector, consult with any or all of the signatory parties to this agreement with respect to the objection.

10. Amendments.

a. Any party to this agreement may propose, in writing, to the Navy that the terms and/or stipulations of this agreement be amended. The Navy shall consult with the other parties to this agreement to consider such an amendment. 36 CFR 800.5 shall govern the execution of any such amendment once agreed upon by all parties.

b. Should such consultation fail and this agreement be terminated, the Navy shall either:

(1) consult with the Council, California SHPO, the Agency, and City in accordance with 36 CFR 800.5(e) to develop a new agreement; or

(2) request the comments of the Council pursuant to 36 CFR 800.5(E)(6).

11. Anti-Deficiency Act.

a. All requirements set forth in this agreement requiring the expenditure of Navy funds are expressly subject to the availability of appropriations and the requirements of the Anti-Deficiency Act (31 U.S.C. Section 1341). No obligation undertaken by the Navy under the terms of this Agreement shall require or be interpreted to require a commitment to expend funds not appropriated for a particular purpose.

b. If the Navy cannot perform any obligation set forth in this agreement because of the unavailability of funds, the Navy, California SHPO, Agency, City, and Council intend that the remainder of the agreement be executed. Any obligation under the agreement which cannot be performed because of the unavailability of funds must be renegotiated between the Navy, California SHPO, Agency, City and Council.

Execution of this agreement by the Navy, Council, and California SHPO, and subsequent implementation of its terms, shall be evidence that the Navy has afforded the Council an opportunity to comment on the Navy's undertakings and its effects on historic properties in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations contained in 36 CFR Part 800.

UNITED STATES NAVY, ENGINEERING FIELD ACTIVITY WEST, San Bruno, CA.

BY: G. J. Buchanan Date: NOV 29 1999
Print or type the Name of Title of Signer: G.J. Buchanan, CAPT. USN CEC Commanding OFFICER

ADVISORY COUNCIL ON HISTORIC PRESERVATION

BY: John M. Fowler Date: 1/11/2000
Print or type the Name of Title of Signer:

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

BY: M Sutzberg for Date: 12/28/99
Print or type the Name of Title of Signer: Daniel Abeyta, Acting SHPO

CONCUR:
SAN FRANCISCO CERTIFIED LOCAL GOVERNMENT

BY:____________________ Date:__________
Print or type the Name of Title of Signer:____________________

SAN FRANCISCO REDEVELOPMENT AGENCY

BY:____________________ Date:__________
Print or type the Name of Title of Signer:____________________

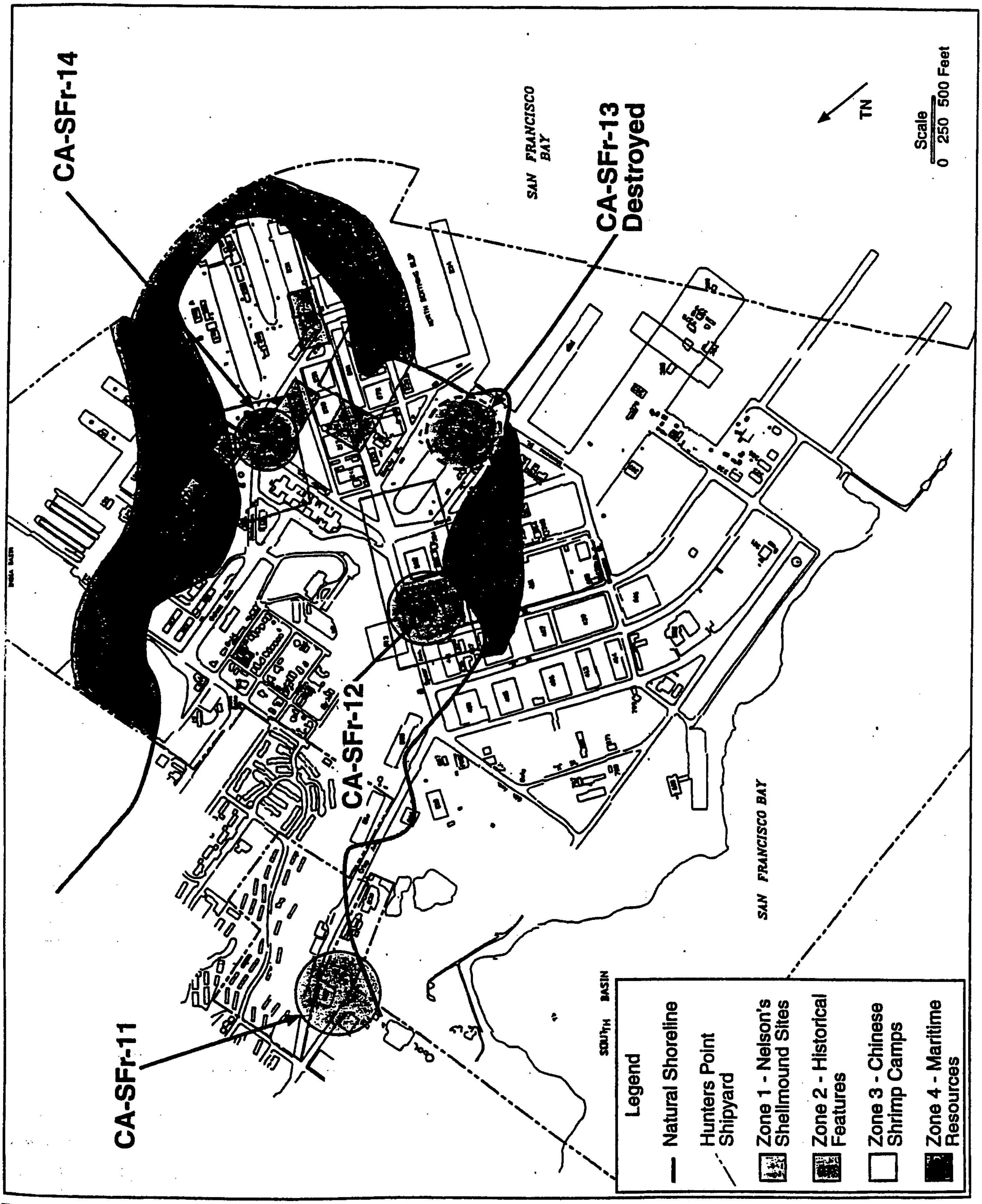


Figure 21. Archeologically Sensitive Zones at Hunters Point

Exhibit II

MEMORANDUM OF AGREEMENT
SUBMITTED TO THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
PURSUANT TO 36 CFR 800.6(a)

WHEREAS, the Department of the Navy (Navy) proposes to lease Drydock 4 (DD-4) at ex-Hunters Point Naval Shipyard, San Francisco, California, a property eligible for inclusion in the National Register of Historic Places, for use as a ship repair facility and related activities; and

WHEREAS, if the Navy is unable to lease or otherwise convey DD-4 to another party, who will assure the continued maintenance of DD-4, the Navy will have to remove certain operating equipment essential to its maintenance of DD-4 which will have an adverse effect upon DD-4; and

WHEREAS, the Navy has consulted with the California State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

NOW, THEREFORE, the Navy and the California SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

Stipulations

The Navy will ensure that the following measures are carried out:

1. The Navy will lease DD-4 in accordance with the provisions in the lease included in "Request for Proposals N62474-94-RP-00X03 Lease of Drydock 4 Hunters Point Annex, Naval Station, Treasure Island, San Francisco," attached to this Memorandum of Agreement, as Appendix A.

2. If the Navy is unable to lease DD-4, prior to the removal of the maintenance equipment from DD-4, the Navy shall contact the Office of National Register Programs, Western Region, National Park Service, San Francisco, California, to determine what level and kind of recordation is required for the property. Unless otherwise agreed to by the National Park Service, the Navy shall ensure that all documentation is completed and accepted by the Historic American Engineering Record prior to the removal of the maintenance equipment, and that copies are made available to the SHPO and appropriate local archives designated by the SHPO.

MEMORANDUM OF AGREEMENT
Department of the Navy
Drydock 4, Ex-Hunters Point Naval Shipyard
San Francisco, California
Page 2

Execution of this Memorandum of Agreement by the Navy and the California SHPO, its subsequent acceptance by the Council, and implementation of its terms, evidence that the Navy has afforded the Council an opportunity to comment on the removal of maintenance equipment and its effects on DD-4, and that the Navy has taken into account the effects of the undertaking on historic properties.

Department of the Navy

By: _______________ Date: 6/24/94

DENNIS P. DRENNAN HEAD, REAL ESTATE CENTER
[Name and title of signer]

California State Historic Preservation Officer

By: _______________ Date: 8/3/94

[Name and title of signer]

ACCEPTED for the Advisory Council on Historic Preservation

By: _______________ Date: 8/25/94
ROBERT D. BUSH, EXECUTIVE DIRECTOR
[Name and title of the signer]

Table B-40
Navy Tenant Hazardous Material Activities, 1997 Tenant Survey, Hunters Point Shipyard[a]

Parcel	Building	Tenant	Hazardous Material	Estimated Quantity (kg)	Stored/Released/ Disposed
A	101	San Francisco Redevelopment Agency	Paints	1375	S
		Sub-tenant: J. Terzian	Solvents	577.3	
			TPH	114.6	
			Adhesives/Sealants	98.02	
			Aerosol sprays, miscellaneous	6.8	
			Photochemical solutions	95	
			Stains, water-based	10.2	
			WD-40	0.57	
A	110	San Francisco Redevelopment Agency	Paints	105.6	S
		Sub-tenant: J. Terzian	TPH	1.7	
			Photochemical solutions	34.5	
A	808	Precision Transport	TPH	272	S
A	916	Dago Mary's Restaurant	Cleaning products	37.4	S
B	103	San Francisco Redevelopment Agency	Paints	95.5	S
		Sub-tenant: J. Terzian	Solvents	124.1	
			TPH	34	
			Solutions	102	
			Powder colorant	0.10	
			Fiber reactive dyes	0.57	

Table B-40 (Continued)
Navy Tenant Hazardous Material Activities, 1997 Tenant Survey, Hunters Point Shipyard[a]

Parcel	Building	Tenant	Hazardous Material	Estimated Quantity (kg)	Stored/Released/ Disposed
B	114	Smith-Emery, Co.	Solvents	27.55	S
			TPH	1,201.8	
			Acids	4.75	
			Ammonium	0.55	
			Cupric sulfate	0.45	
			Ferric chloride	0.45	
			Magnaflux magnetic powder	34	
			Sodium hydroxide	1.7	
			WD-40	6.8	
B	115	Finish Works	Solvents	27.2	S
			TPH	3.4	
			Coating/sealants	10.2	
B	116	Frame Works	Paints	74.8	S
			Solvents	41.2	
			TPH	4.5	
			Acids	0.8	
B	117	San Francisco Redevelopment Agency	Paints	69.7	S
		Sub-tenant: J. Terzian	Solvents	63.05	
			TPH	27.2	
			Adhesives/sealants	5.1	
			Colorants	40	
			Xtender	27.2	

Table B-40 (Continued)
Navy Tenant Hazardous Material Activities, 1997 Tenant Survey, Hunters Point Shipyard[a]

Parcel	Building	Tenant	Hazardous Material	Estimated Quantity (kg)	Stored/Released/ Disposed
B	120	Police Athletic Club	Paints	13.6	S
			TPH	170	
			Swimming pool cleaners	15.4	
			Corrosives	17	
B	125	Bridenthal Cabinetry	Paints	12.5	S
			TPH	85	
B	128	CCSF DEA	ZEP Flash floor cleaner	17	S
C	134	Odaco, Inc.	Paints	10.2	S
			Solvents	197.2	
			TPH	309.3	
			Cleaning products	57.8	
			Refrigerant	205.7	
			Corrosives	17	
C	211	DOT, Maritime Administration	TPH	51	S
C	230	Ermico Enterprises	Solvents	85	S
			TPH	425	
			Adhesives/sealants	5.1	
			K-4 Catalyst	51	
C	275	Ermico Enterprises	TPH	2,924	S
			Detergents	382.5	
			Santrol 35	187	
C	301	Astoria Metals	TPH	694	S
			Adhesives/sealants	34	
			Antifreeze	561	
C	367	Astoria Metals	TPH	1,250	S
C	372	Astoria Metals	TPH	5,610	S

Table B-40 (Continued)
Navy Tenant Hazardous Material Activities, 1997 Tenant Survey,
Hunters Point Shipyard[a]

Parcel	Building	Tenant	Hazardous Material	Estimated Quantity (kg)	Stored/Released/ Disposed
			Lead[b]	15,910	
C	Dry Dock 4[c]	Astoria Metals	TPH	7,924	S
			Adhesives/sealants	68	
			Asbestos[b]	13,636	
D	302	Golden Gate Railroad Museum	TPH	462.3	S
			Corrosion inhibitor	374	
D	323	San Francisco Redevelopment Agency	Paints	34.7	S
		Sub-tenant: J. Terzian	Solvents	13.6	
			TPH	107.2	
D	363	Quality Craftsman	Solvents	102	S
			TPH	37.3	
D	364	Young Laboratories	Solvents	6.8	S
			Paints	6.8	
			Acids	87.8	
			Ammonium	6.8	
			Ether	0.85	
			Lead	4.8	
			Potassium cyanide	0.1	
D	366	Christian Engineering	Paints	34	S
			Solvents	82.62	
			TPH	666.4	
			Heat transfer fluid	17	

Table B-40 (Continued)
Navy Tenant Hazardous Material Activities, 1997 Tenant Survey, Hunters Point Shipyard[a]

Parcel	Building	Tenant	Hazardous Material	Estimated Quantity (kg)	Stored/Released/ Disposed
D			Antifreeze	10.2	
		San Francisco Redevelopment Agency	Paints	22.84	S
		Sub-tenant: J. Terzian	Solvents	91.18	
			TPH	268.7	
			Antifreeze	3.4	
D	401	DiPaolo and Barber	Paints	61.2	S
			Solvents	3.4	
			TPH	10.2	
D	401	James Heagy	Paints	6.8	S
			Solvents	106.8	
			TPH	1,090.2	
			Acids	10.2	
			Ammonia	51	
			Isopropyl alcohol	6.8	
			Printing ink	3.4	
D	401	Patricia Powers	Paint	12.5	S
			TPH	6.8	
D	401	West Edge Design	Solvents	151.3	S
			TPH	119	
			Corrosives	104.4	
D	402	Vacant	TPH	680	S
D	404	Mina Metals	Paints	15	S
			Solvents	30.7	
			TPH	630.9	
			Adhesives/sealants	1,710	
			Corrosives	7.6	
D	407	American Van Lines	TPH	34	S

Table B-40 (Continued)
Navy Tenant Hazardous Material Activities, 1997 Tenant Survey, Hunters Point Shipyard[a]

Parcel	Building	Tenant	Hazardous Material	Estimated Quantity (kg)	Stored/Released/ Disposed
D	411	Eric Landsdown – The Dollhouse	Paint	17	S
			Solvents	28.2	
			TPH	23.8	
D	411	Sierra Western Equipment	Paint	61.2	S
			TPH	2,108	
D	418	Hydro-Chem Services	Paint	10.2	S
			TPH	175.1	
D	435	San Francisco Redevelopment Agency	Paint	3.4	S
		Sub-tenant: J. Terzian	TPH	3.4	
D	435	West Edge Design	Solvents	34	S
D			TPH	84.6	
D	606	San Francisco Redevelopment Agency	Solvents	2.0	S
		(Police)	TPH	566.1	
			Antifreeze	13.6	
E	371	S&W Productions	Paint	6.8	S
			Solvents	3.4	
			TPH	95.2	
			Adhesives/sealants	13.6	
E	405	Clean Comp	Paint	13.6	S
			TPH	60.7	
E	406	B&A Bodywork/Towing	Paints	68	S
			Solvents	10.08	
			TPH	414.55	
E	413	American Van Lines	TPH	34	S

Table B-40 (Continued)
Navy Tenant Hazardous Material Activities, 1997 Tenant Survey, Hunters Point Shipyard[a]

Parcel	Building	Tenant	Hazardous Material	Estimated Quantity (kg)	Stored/Released/ Disposed
E	704	Wagner Construction	Solvents	37	S
			TPH	1,305.6	
			Antifreeze	10.2	
			Starting fluid	1.8	
E	809	Golden Gate Railroad Museum	Paints	51	S
			TPH	17,854	
			Adhesives/sealants	6.8	
			Antifreeze	10.2	
			Hydraulic fluid (fire resistant)	17	
			Starting fluid	13.6	

Source: U.S. Navy, 1998e.

Notes:

D Disposed of
kg Kilogram
R Released
S Stored
TPH Total petroleum hydrocarbons

a Quantities of hazardous materials and TPH present at buildings were calculated based on data in U.S. Navy, 1998e, Appendix H with the following assumptions: (1) all substances listed in Appendix H are hazardous materials, (2) all hazardous materials listed in Appendix H are pure substances, and (3) all hazardous materials have been converted to kg based on 1 gallon equals 3.4 kg. Based on 1 and 2, the quantities are over estimated.

b Hazardous material exceeds Comprehensive Environmental Response, Compensation, and Liability Act reportable quantity (Code of Federal Regulations 40 Section 302.4).

c A review of Astoria Metals Corporation's records indicated that a diesel spill was cleaned on April 3 and 4, 1997, on the north side of Dry Dock 4. Absorbants were used to soak up the diesel and contaminated soil was removed.

d Sometime in 1996, a spill of diesel from a 55-gallon drum on a truck occurred. The drum did not belong to the tenant. The truck was removed, but it is unknown if the release was cleaned up.

Table B-41

Summary of Installation Restoration Program and Facility-Wide Utility Sites at Hunters Point Shipyard

Parcel	IRP[a] Site	Description	Suspected Material Associated with Site	Constituents of Potential Concern	Status
A	SI-19	Building 901 (Officers Club)	Sandblast waste and oily material	No significant findings	No further action; to be released to City
A	SI-41	Buildings 816, 817, 817A, and 818	Chlorine and radioactive material	No significant findings	No further action; to be released to City
A	SI-43	Building 906 (Gardening Tool House)	Pesticides and fertilizer	Pesticides in soil; soil removed	No further action; to be released to City
A	IR-59 JAI	Former residential lot	Sandblast waste and pesticides	Soil removed	No further action; to be released to City
A	IR-59	Parcel A groundwater investigation	Motor oil	No significant findings	No further action; to be released to City
A	SI-77	UST S-812 at Building 813	Fuels	UST removed. Groundwater: metals, SVOCs	No further action; to be released to City
B	SI-31	Building 114[b]	Sandblast waste and radioactive material	Soil: Metals, PAHs. Groundwater: NA.	No further action; to be released to City
B	IR-06	Building 111[b] and 112[b] and Tank Farm with ASTs	Diesel fuel, lubricating oil, and stoddard solvent	Soil: Metals, PAHs, PCBs, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: Metals, SVOCs, TPH-D, VOCs.	Remedial action ongoing
B	IR-07	Sub-base Area and Radiation Site	Diesel fuel, paint, solvents, sandblast waste, waste oil, and radioactive fill material	Soil: Metals, PAHs, TOG, TPH-D. Groundwater: Metals.	Remedial action ongoing
B	IR-10	Building 123 (Battery and Electroplating Shop)	Waste acids (with metals)	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-G, TRPH, VOCs. Groundwater: Metals, PAHs, SVOCs, TOG, TPH-D, VOCs.	Remedial action ongoing
B	IR-18	Waste Oil Disposal Site (Dago Mary's) and Triple A Sites	Waste oil and radioactive fill material	Soil: Metals, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: Metals, PAHs, TOG, VOCs.	Remedial action ongoing

Table B-41 (Continued)

Summary of Installation Restoration Program Facility-Wide and Utility Sites at Hunters Point Shipyard

Parcel	IRP[a] Site	Description	Suspected Material Associated with Site	Constituents of Potential Concern	Status
B	IR-20	Building 156	Unknown chemicals and reclaimed oil	Soil: Metals, PCBs, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: Metals, PAHs, TOG, VOCs.	Remedial action ongoing
B	IR-23	Buildings 144, 146, 161, and 162; Radiation Site (Building 146); UST S-136 at Building 118; and SA-77 (Building 144)	Fuels, oils, paint resins, unknown chemicals, and radioactive material	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TPH-D, TPH-E, VOCs, TPH-MO, Waste Oil. Groundwater: SVOCs, TPH.	Remedial action ongoing
B	IR-24	Buildings 124(d), 125, 128, 130, 131, and 159	Acids, various chemicals, solvents, PCBs, and paint	Soil: Metals, PCBs, SVOCs, TOG, TPH-D, TPH-E, TPH-G, TPH-P, VOCs. Groundwater: Metals, PAHs, TOG, TPH-D, TPH-E, TPH-P, VOCs.	Remedial action ongoing
B	IR-26	Building 157 and Area XIV (area north of Dry Dock 3)	Oils, paint, sandblast waste, PCBs, and asbestos	Soil: Metals, PAHs, PCBs, TOG, TPH-E, TPH-G, TPH-P, VOCs. Groundwater: TBD.	Remedial action ongoing
B	IR-42	Buildings 109, 113, and 113A and Radiation Site (Buildings 113 and 113A)	Oil and grease	Soil: Metals, PAHs, PCBs, PEST, TOG, TPH-E, TPH-MO. Groundwater: TBD.	Remedial action ongoing
B	IR-46	Fuel Distribution Lines/Tank Farm (utility investigation)	Diesel fuel and lubricating oil	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-E, TPH-P, TRPH, VOCs. Groundwater: TPH-D.	Remedial action ongoing
B	IR-60	SA-76 (Dry Docks 5, 6, and 7)	Sandblast waste, paint, and fuel	Soil: Metals, SVOCs, TPH, VOCs. Groundwater: Metals.	Remedial action ongoing
B	IR-61	SA-79 (Building 122)	Lubricating oil, transformer oil, and battery acids	Soil: PCBs, SVOCs, TPH. Groundwater: PCBs, SVOCs, TPH.	Remedial action ongoing
B	IR-62	SA-82 (Buildings 115 and 116) and UST S-135 at Building 116	Hydraulic fluid, oils, glues, and stains	Soil: PCBs, SVOCs, TPH. Groundwater: PCBs, SVOCs, TPH.	No further action required
C	IR-25	Building 134	Sludge, oil, and solvents	Soil: Metals, PAHs, PCBs, TOG, TPH-D, TPH-E, VOCs, TPH-MO, TPH-P. Groundwater: TBD.	RI/FS phase
C	IR-27	Building 205 and USTs S-214 and HPA-06 at Building 205	Lubricating oil, dielectric fluid, and asbestos	Soil: Metals, SVOCs, TOG, TPH-D, TPH-G. Groundwater: TBD.	RI/FS phase

Table B-41 (Continued)

Summary of Installation Restoration Program Facility-Wide and Utility Sites at Hunters Point Shipyard

Parcel	IRP[a] Site	Description	Suspected Material Associated with Site	Constituents of Potential Concern	Status
C	IR-28	Buildings 211/253, 214, 218, 219, 224, 228, 229, 230, 231, 251, 252, 258, 270, 271, and 281; UST HPA-01 (Building 211); USTs HPA-02, HPA-03, HPA-04, HPA-05, S-001, S-002, S-003, and S-004 (Building 253); UST HPA-07 (Building 272); USTs HPA-10, HPA-11, HPA-12, HPA-16, HPA-17 (Building 231), HPA-33 (Building 281), and HPA-34 (Building 281); UST S-215 (Building 271); USTs S-219 and S-251 (Building 251); and SA-94 (Building 251), SA-99 (Building 230), SA-100 (Building 281), SA-101 (Building 273), SA-102 (Building 270), SA-103 (Building 271), and SA-111 (Building 229)	Fuels, oil, paint, solvents, PCBs, sandblast waste, unknown chemicals, and radioactive material	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-G, TPH-MO, TPH-P, VOCs. Groundwater: Metals, PAHs, PEST, SVOCs, TOG, TPH-D, TPH-G, TPH-P, VOCs.	RI/FS phase
C	IR-29	Buildings 203, 217, 275, 279(d), 280, and 282	Fuel, oil, acid, paint, unknown chemicals, aluminum oxide, and sandblast waste	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-E, TPH-P, VOCs. Groundwater: TBD.	RI/FS phase
C	IR-30	Building 241	Oil and asbestos	Soil: CN, Metals, PAHs, PCBs, SVOCs, TOG, TPH-D, TPH-E, TPH-P, VOCs. Groundwater: CN, Metals, PAHs, PEST, PCBs, SVOCs, TOG, TPH-D, TPH-E, TPH, VOCs.	RI/FS phase
C	IR-57	Dry Dock 4 Area	Oil, PCBs, and sandblast waste	Soil: Metals, PCBs, SVOCs, TOG, TPH-D, VOCs, Waste Oil. Groundwater: NA.	RI/FS phase
C	IR-58	Scrap Yard (north of Building 258)	Oil and miscellaneous debris	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-E, TPH-P, VOCs. Groundwater: NA.	RI/FS phase
C	IR-63	SA-89 (Building 278[b])	Unknown	Soil: Metals, PCBs, SVOCs, TPH. Groundwater: Metals, PCBs, SVOCs, TPH.	RI/FS phase
C	IR-64	SA-90 (Building 206)	Transformer oil and batteries	Soil: Metals, SVOCs, TPH, VOCs. Groundwater: Metals, SVOCs, TPH, VOCs.	RI/FS phase

Table B-41 (Continued)

Summary of Installation Restoration Program Facility-Wide and Utility Sites at Hunters Point Shipyard

Parcel	IRP[a] Site	Description	Suspected Material Associated with Site	Constituents of Potential Concern	Status
D	IR-08	Former Building 503 (now Building 606) PCB Spill Area	PCBs	Soil: Metals, PAHs, PCB, PEST, SVOCs, TOG, TPH-D, VOCs. Groundwater: Metals, PAHs, PCBs, SVOCs, VOCs.	RI/FS phase
D	IR-09	Pickling and Plate Yard	Acids	Soil: Metals, PAHs, PEST, TPH-D, VOCs. Groundwater: Metals, PAHs, SVOCs, VOCs.	RI/FS phase
D	IR-16	Container Storage Area	PCBs from drums, oil rags, transformers, and flammable chemicals	Soil: Metals. Groundwater: ND.	RI/FS phase
D	IR-17	Drum Storage and Disposal Site	Industrial debris	Soil: Metals, PAHs, TOG, VOCs. Groundwater: TOG, VOCs.	RI/FS phase
D	IR-22	Buildings 308, 368, and 369 and UST HPS-308 at Building 308	Fuels, oil, sandblast waste, and asbestos	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-E, VOCs. Groundwater: Metals, PAHs, TOG, VOCs.	RI/FS phase
D	IR-32	Building 383 and Regunning Pier	Radioactive material	Soil: Metals, CN, PAHs, SVOCs, TOG, TPH-D. Groundwater: Metals, VOCs.	RI/FS phase
D	IR-33	Buildings 302, 303, 304, 364, 411, and 418; USTs S-304 and S-305 at Building 304; Radiation Sites (Building 364 and 365); and SA-116 (Buildings 417, 418, and 424) and SA-125 (Building 365)	Fuels, oils, paint solvents, unknown chemicals, acids, sandblast waste, and radioactive material	Soil: Metals, CN, PAHs, PCBs, PEST, RAD, SVOCs, TOG, TPH-D, TPH-E, TPH-G, TPH-MO, VOCs. Groundwater: Metals, TPH.	RI/FS phase
D	IR-34	Buildings 351, 351A, and 366 and Radiation Site (Building 351A)	Acid, oils, unknown chemicals, and radioactive material	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, THP-D, TPH-MO, VOCs. Groundwater: TBD.	RI/FS phase
D	IR-35	Buildings 274, 306, 313[b], 313A[b], 322, and 372 and area bounded by Manseau, Moreell, and "E" Streets (south of Dry Dock 4) and Radiation Site (Buildings 274, 313[b], and 313A[b])	Unknown chemicals, PCBs, sandblast waste, and radioactive material	Soil: Metals, PAHs, PCBs, PEST, TOG, TPH-E, TPH-MO, TPH-P, VOCs. Groundwater: TBD.	RI/FS phase
D	IR-37	Buildings 401, 435, 436, and 437; USTs S-435(1) and S-435(2) at Building 435; and SA-117 (Building 437)	Paint, solvents, and unknown chemicals	Soil: Metals, PCBs, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: TBD.	RI/FS phase
D	IR-44	Area near Buildings 408, 409, 410(d), and 438 and SA-126 (Building 438)	Sandblast waste	Soil: Metals, SVOCs, TPH, VOCs. Groundwater: Metals, SVOCs, TPH, VOCs.	RI/FS phase

Table B-41 (Continued)

Summary of Installation Restoration Program Facility-Wide and Utility Sites at Hunters Point Shipyard

Parcel	IRP[a] Site	Description	Suspected Material Associated with Site	Constituents of Potential Concern	Status
D	IR-48	Suspected Steam Lines at former Building 503	Waste oil and PCBs	The suspected steam lines did not exist according to SI field investigation	No further action
D	IR-53	Buildings 525 and 530	Oil, fuel, adhesives, paint, and unknown chemicals	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-E, TPH-G, VOCs. Groundwater: TBD.	RI/FS phase
D	IR-55	Building 307	Oil and unknown hazardous material	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-E, TPH-P, VOCs, TPH. Groundwater: TBD.	RI/FS phase
D	IR-65	SA-123 (Building 324)	Carbon dioxide cylinders	Soil: PCBs. Groundwater: PCBs.	RI/FS phase
D	IR-66	SA-127 (Building 407)	None	Soil: Metals, SVOCs, TPH. Groundwater: Metals, SVOCs, TPH.	RI/FS phase
D	IR-67	SA-128 (Building 439)	Metals, acids, and paints	Soil: Metals, SVOCs, VOCs, TPH. Groundwater: TPH.	RI/FS phase
D	IR-68	Buildings 374, 376, 378, 379, and 382 and SA-131 (Building 378)	Diesel	Soil: TPH. Groundwater: PCBs, TPH.	RI/FS phase
D	IR-69	SA-134 (Building 523) and SA-135 (metal shed near Building 523)	PCBs and lubricating oil	Soil: Metals, PCBs, TPH. Groundwater: Metals.	RI/FS phase
D	IR-70	SA-137 (area northeast of Building S-308)	Possible sandblast material	Soil: Metals, SVOCs, TPH, VOCs. Groundwater: Metals, SVOCs, TPH, VOCs.	RI/FS phase
D	IR-71	SA-140 (Crane Storage Yard at corner of Manseau and Moreell Streets)	Lubricating oil and fuel	Soil: TPH. Groundwater: TPH.	RI/FS phase
E	IR-40	Building 527 and Pier 2	PCBs	Soil: Metals, PCBs, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: NA.	No further action
E	IR-47	Fuel Distribution Lines for AST S-505	Diesel fuel and oil	Soil: Metals, PCBs, PEST, TOG, TPH-E, TPH-P, VOCs. Groundwater: TPH-D.	RI/FS phase
E	IR-01/21	Industrial Landfill and area southwest of Building 810	Solvents, metals, VOCs, SVOCs, and PCBs	Soil: Metals, PCBs, RAD, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: Metals, PCBs, SVOCs, TPH-D, TPH-G, VOCs.	RI/FS phase
E	IR-02	Bay Fill Area, Burn Disposal Area, and AST S-505 excluding IR-03 Radiation Site	Industrial debris, drums, paint containers, asphalt, asbestos, sandblast waste, waste oil and oil containing PCBs, and unknown liquid waste	Soil: Metals, PCBs, PEST, RAD, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: Metals, PCBs, SVOCs, TPH-D, TPH-G, TRPH, VOCs.	RI/FS phase

Table B-41 (Continued)

Summary of Installation Restoration Program Facility-Wide and Utility Sites at Hunters Point Shipyard

Parcel	IRP[a] Site	Description	Suspected Material Associated with Site	Constituents of Potential Concern	Status
E	IR-03	Former Oil Reclamation Ponds	Oil, unknown liquid wastes, and sandblast waste	Soil: Metals, PAHs, PCBs, SVOCs, TOG, TPH-D, TPH-E, TRPH, VOCs. Groundwater: Metals, PCBs, PEST, SVOCs, TPH-D, VOCs.	RI/FS phase
E	IR-04	Building 807 (Scrap Yard Shed)	Capacitors, scrap metal (lead and copper), drums, asbestos, batteries, and unknown liquid wastes	Soil: Metals, PAHs, PCBs, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: Metals, TOG, TPH-D, TPH-G, VOCs.	RI/FS phase
E	IR-05	Old Transformer Storage Yard	Batteries (containing acids and metals) and PCBs	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: Metals, PAHs, PCBs, TPH-D, TPH-P, VOCs.	RI/FS phase
E	IR-11	Building 521 (Power Plant) and SA-142 (Building 521)	Solvents, paint, asbestos, fuel, and transformer oil	Soil: Metals, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: TPH-D, VOCs.	RI/FS phase
E	IR-12	Disposal Trench and Salvage Yard (Building 702[b])	Oil, acids, bases, solvents, LBP, paint containers, sludge, and unknown wastes	Soil: Metals, CN, PAHs, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-E, TPH-G, TPH-MO, VOCs. Groundwater: Metals, PCBs, SVOCs, TOG, TPH-D, TPH-G, VOCs.	RI/FS phase
E	IR-13	Old Commissary Site (former Buildings 524[b] and 803[b])	Fuels, oils, PCBs, and miscellaneous waste	Soil: Metals, PCBs, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: SVOCs, TOG, TPH-E.	RI/FS phase
E	IR-14	Oily Liquid Waste Disposal Site and Buildings 506[b], 510[b], 510A[b], 518, and 529[b]	Oil, mixed waste, miscellaneous debris, sandblast waste, and radioactive material	Soil: Metals, PEST, SVOCs, TOG, TPH-D, TPH-G, TRPH, VOCs. Groundwater: Metals, TOG, TPH-D, TPH-G.	RI/FS phase
E	IR-15	Oily Waste Ponds and Incineration Tank	Waste oil and miscellaneous debris	Soil: Metals, PEST, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: Metals, PAHs, PCBs, SVOCs, TOG, TPH-D, TPH-G, VOCs.	RI/FS phase
E	IR-36	Buildings 371, 400, 404A, 405, 406, 413, 414, 704, 709, and 710 and area west of Building 405; USTs HPA-14, HPA-15, S-711, S-712, S-713, S-714, and S-715 at Building 709	Oils, PCBs, solvents, unknown chemicals, and miscellaneous debris	Soil: Metals, PAHs, PEST, PCBs, SVOCs, TOG, TPH-D, TPH-G, TPH-MO, TPH-P, VOCs. Groundwater: Metals, SVOCs, PEST, TOG, TPH-D, TPH-G, TPH-MO, VOCs.	RI/FS phase
E	IR-52	Railroad right-of-way (off-site west of facility)	Paint, resins, oil, and miscellaneous debris	Soil: Metals, PCBs, PEST, TOG, TPH-D, TPH-G, VOCs. Groundwater: NA.	RI/FS phase

Table B-41 (Continued)

Summary of Installation Restoration Program Facility-Wide and Utility Sites at Hunters Point Shipyard

Parcel	IRP[a] Site	Description	Suspected Material Associated with Site	Constituents of Potential Concern	Status
E	IR-54	Building 511A(d)	Miscellaneous debris	Soil: Metals, PAHs, PCBs, PEST, TOG, TPH-D, TPH-G, TRPH. Groundwater: TBD.	No further action
E	IR-56	Area VII and Railroad Tracks	Pentachlorophenol (wood preservative)	Soil: Metals, PAHs, SVOCs, TOG, VOCs. Groundwater: TBD.	RI/FS phase
E	IR-72	SA-146 (Building 810) and UST S-801 and S-802 at Building 811	Solvents, acids, greases, soil cuttings, and cleaning agents	Soil: Metals, SVOCs, TPH, VOCs. Groundwater: SVOCs, TPH, VOCs.	RI/FS phase
E	IR-73	SA-150 (asphalt batch plant northwest of Pier 2)	Diesel fuel and asphalt stock	Soil: SVOCs, TPH, VOCs. Groundwater: SVOCs, TPH, VOCs.	RI/FS phase
D and E	IR-38	Buildings 500, 506[b], 507[b], 509[b], 510[b], and 517[b]; UST S-508 at Building 500; and Radiation Sites (Buildings 506[b], 507[b], 508[b], 509[b], 510[b], and 517[b])	Building 500: none All other buildings: radioactive material	Soil: Metals, TOG, TPH-D, TPH-G, VOCs. Groundwater: TBD.	RI/FS phase
D and E	IR-39	Buildings 505, 519[b], 707, 708, and IR-13 sites and Radiation Site (Buildings 707 and 708)	Unknown chemicals and radioactive material	Soil: Metals, PAHs, PCBs, SVOCs, TOG, TPH-D, TPH-E, TPH-G, VOCs. Groundwater: CN, Metals (at Bldg. 707 only).	RI/FS phase
A, B, C, D, and E	IR-45	Steam Lines (utility investigation)	Waste oils	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, TPH-D, TPH-G, VOCs. Groundwater: NA.	RI/FS phase
B and C	IR-49	Fuel Distribution Lines at Buildings 203 and 205 (utility investigation)	Fuel and fuel oils	Soil: Metals, PAHs, PCBs, PEST, SVOCs, TOG, TPH-E, TPH-P, TRPH, VOCs. Groundwater: TPH-D.	RI/FS phase
B, C, D, and E	IR-50	Storm Drains and Sanitary Sewer Lines (utility investigation)	Unknown	Soil: CN, Metals, PAHs, PCBs, SVOCs, TPH-D, TPH-E, TPH-G, TRPH, VOCs. Groundwater: Fecal Coliform, Metals, PAHs, TPH-G, VOCs.	RI/FS phase
A	SI-50	Storm Drains and Sanitary Sewer Lines (utility investigation)	Unknown	Contaminants in sediments in storm drain catch basin	No further action
B, C, D, and E	IR-51	Former Transformer Sites	PCBs	Soil: PCBs. Groundwater: TBD.	RI/FS phase
A	SI-51	Former Transformer Sites	PCBs	No evidence of stained soil or leaking from existing equipment	No further action
F	IR-78	Underwater portion of HPS (includes tidal and subtidal areas)	Metals, PAHs, SVOCs, and pesticides and PCBs	Soil: Metals, PAHs, PCBs, TPH. Groundwater: NA	RI/FS phase

Table B-41 (Continued)

Summary of Installation Restoration Program Facility-Wide and Utility Sites at Hunters Point Shipyard

Parcel	IRP[a] Site	Description	Suspected Material Associated with Site	Constituents of Potential Concern	Status
FUDS	IR-74	Radiation site (Building 815, a FUDS)	None – radiation clearance needed for Building 815	Cleared for radiation	No further action
FUDS	IR-75	Radiation site (Building 820, a FUDS)	None – radiation clearance needed for Buildings 820	Cleared for radiation	No further action
FUDS	IR-76	Area surrounding Buildings 830 and 831 (FUDS) and radiation site (Buildings 830 and 831)	None – radiation clearance needed for Buildings 830 and 831	Cleared for radiation	No further action

Source: U.S. Navy, 1998e.

Notes:

AST	Aboveground storage tank
AOC	Area of concern
CITY	City of San Francisco
CN	Cyanide
ERA	Ecological risk assessment
FS	Feasibility study
FUDS	Formerly used defense sites
HPS	Hunters Point Shipyard
IRP	Installation Restoration Program
LBP	Lead-based paint
NA	Not Analyzed
ND	Not Detected
PAH	Polynuclear aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PEST	Pesticides
POTW	Publicly owned treatment works
RAD	Radiation
RI	Remedial investigation
ROD	Record of Decision
SA	Site assessment
SI	Site inspection
SVOC	Semivolatile organic compound
TBD	To be determined
TOG	Total oil and grease
TPH	Total petroleum hydrocarbons
TPH-D	Total petroleum hydrocarbons as diesel
TPH-E	Total petroleum hydrocarbons as extractable unknown hydrocarbons
TPH-G	Total petroleum hydrocarbons as gasoline
TPH-MO	Total petroleum hydrocarbons as motor oil
TPH-P	Total petroleum hydrocarbons as purgeable unknown hydrocarbons
TRPH	Total recoverable petroleum hydrocarbons
UST	Underground storage tank
VOC	Volatile organic compound

a Designation of a site as "SI" denotes that site has undergone PA and SI level investigation. No further investigation to define nature and extent of contamination is recommended. Designation of a site as "installation restoration (IR)" indicates that a site has undergone preliminary assessment (PA) and SI level investigation and has been recommended for further investigation at the RI level. The recommendation is based on the suspected or detected presence of contamination by hazardous substances and the need to adequately characterize its nature and extent of contamination.

b The building has been demolished.

Table B-42: Plant Species

The plant species below have all been detected at Hunters Point and within the ROI.

COMMON NAME	SCIENTIFIC NAME
sand verbena*	*Abronia maritima*
Sydney golden	*Acacia longifolia*
acacia*	*Acacia* sp.
yarrow*	*Achillea millefolium*
century plant	*Agave americana*
plume acacia	*Albizia lophantha*
aloe	*Aloe* sp.
beach bur*	*Ambrosia chamissonis*
scarlet pimpernel*	*Anagalis arvensis*
fat hen	*Atriplex hastata*
beach saltbush	*Atriplex leucophylla*
Australian saltbush	*Atriplex semibaccata*
slender wild oat*	*Avena barbata*
coyote brush*	*Baccharis pilularis*
bellardia*	*Bellardia trixago*
garden beet	*Beta vulgaris*
mustard*	*Brassica sp.*
ripgut grass*	*Bromus diandrus*
soft chess	*Bromus hordeaceus*
red brome*	*Bromus madritensis* ssp. *rubens*
sea rocket*	*Cakile maritima*
bottlebrush	*Callistemon* sp.
Italian thistle	*Carduus pycnocephalus*
fig-marigold*	*Carpobrotus edulis*
yellow star thistle*	*Centaurea solstitialis*
Indian soap plant	*Chlorogalum pomeridianum*
chicory	*Cichorium intybus*
horseweed*	*Conyza* sp.
pampas grass*	*Cortedaria* sp.
cotoneaster	*Cotoneaster* sp.
cypress*	*Cupressus* sp.
dodder*	*Cuscuta* sp.
Bermuda grass*	*Cynodon dactylon*
saltgrass*	*Distichlis spicata*
dragon tree	*Dracena draco*
willow herb	*Epilobium brachycarpum*
coast buckwheat	*Eriogonum latifolium*
red-stem filaree*	*Erodium cicutarium*
filaree*	*Erodium* sp.
California poppy*	*Eschscholzia californica*
blue gum	*Eucalyptus globulus*
Australian beech	*Eucalyptus polyanthemos*
perennial fescue	*Festuca* sp.
sweet fennel*	*Foeniculum vulgare*
geranium*	*Geranium dissectum*
dove-leaved geranium	*Geranium molle*
cudweed*	*Gnaphalium* sp.
broom*	*Grenista monspessulanus*
Great Valley gumplant*	*Grindelia camporum*
English ivy	*Hedera helix*
toyon	*Heteromeles arbutifolia*
telegraph weed	*Heterotheca grandiflora*
summer mustard*	*Hirschfeldia incana*
Mediterranean barley	*Hordeum marinum* var. *gussoneanum*
foxtail barley	*Hordeum* sp.

Table B-42: Plant Species (Continued)

COMMON NAME	SCIENTIFIC NAME
rough cat's-ear	*Hypochaeris radicata*
rush	*Juncus* sp.
Juniper	*Juniperus* sp.
tree mallow	*Lavatera arborea*
western marsh-rosemary	*Limonium californicum*
sweet alyssum	*Lobularia maritima*
Italian ryegrass*	*Lolium multiflorum*
birdsfoot trefoil	*Lotus corniculatus*
silver bush lupine	*Lupinus albifrons*
loosestrife	*Lythrum hyssopifolium*
cheeseweed*	*Malva* sp.
California burclover	*Medicago polymorpha*
white sweetclover*	*Melilotus alba*
myoporum	*Myoporum lactum*
purple needlegrass	*Nassella pulchra*
tune, Nopal	*Opuntia tuna*
Bermuda buttercup*	*Oxalis pes-caprae*
phacelia	*Phacelia* sp.
Canary Island date palm	*Phoenix canariensis*
bristly ox-tongue	*Picris echioides*
pine	*Pinus* sp.
cut-leaved plantain	*Plantago coronopus*
narrow-leaved plantain*	*Plantago lanceolata*
London plane	*Platanus acerifolia*
common knotweed	*Polygonum arenastrum*
California polypody	*Polypodium californicum*
annual beardgrass	*Polypogon monspeliensis*
lombardy poplar	*Populus nigra* var. *italica*
cherry plum	*Prunus cerasifera*
holly-leaf cherry	*Prunus ilicifolia*
fire-thorn	*Pyracantha angustifolia*
cork oak	*Quercus suber*
wild radish*	*Raphanus sativus*
Himalaya blackberry*	*Rubus discolor*
curly dock*	*Rumex crispus*
fiddle dock	*Rumex pulcher*
pickleweed*	*Salicornia virginica*
arroyo willow	*Salix lasiolepis*
Russian thistle	*Salsola tragus*
pincushion flower	*Scabiosa atropurpurea*
milk thistle	*Silybum marianum*
prickly sow thistle*	*Sonchus asper*
salt marsh sand spurrey	*Spergularia marina*
tamarisk	*Tamarix* sp.
New Zealand spinach	*Tetragonia tetragonioides*
rose clover*	*Trifolium hirtum*
garden nasturtium	*Tropaeolum majus*
cattail	*Typha* sp.
annual fescue	*Vulpia* sp.
Spanish dagger	*Yucca mohavensis*

Source: U.S. Navy, 1995c; City and County of San Francisco, Planning Department, 1994a.
* = Species observed during 1995 sensitive species survey of HPS (U.S. Navy, 1995c).

Table B-43: Avian Species

Bird species included in this list are those that potentially inhabit HPS and the ROI. Those detected during surveys of HPS or observed by local residents are noted.

COMMON NAME	SCIENTIFIC NAME
Cooper's hawk	*Accipiter cooperi*
sharp-shinned hawk [2,*]	*Accipiter striatus*
spotted sandpiper	*Actitus macularia*
Clark's grebe [2]	*Aechmophorus clarkii*
western grebe [2]	*Aechmophorus occidentalis*
white-throated swift	*Aeronautes saxatalis*
red-winged blackbird [1,2,*]	*Agelius phoeniceus*
tricolored blackbird [2]	*Agelius tricolor*
wood duck	*Aix sponsa*
green-winged teal	*Anas carolinensis*
northern shoveler	*Anas clypeat*
cinnamon teal	*Anas cyanoptera*
Mallard	*Anas platyrhynchos*
Gadwall	*Anas strepera*
American pipit	*Anthus spinoletta*
scrub jay [2,*]	*Aphelocoma coerulescens*
golden eagle [*]	*Aquila chrysaetos*
great blue heron [2,*]	*Ardea herodias*
ruddy turnstone [2]	*Arenaria interpres*
black turnstone [2]	*Arenaria melanocephala*
short-eared owl	*Asio flammeus*
long-eared owl	*Asio otus*
lesser scaup [1,2,*]	*Aythya affinis*
ring-necked duck	*Aythya collaris*
greater scaup [1,2,*]	*Aythya marila*
Canvasback [*]	*Aythya valisineria*
cedar waxwing [2,*]	*Bombycilla cedrorum*
American bittern	*Botaurus lentiginosus*
Canada goose [*]	*Branta canadensis*
great horned owl	*Bubo virginianus*
bufflehead [2]	*Bucephala albeola*
common goldeneye [2]	*Bucephala clangula*
Barrow's goldeneye [2]	*Bucephala islandica*
red-tailed hawk [*]	*Buteo jamaicensis*
ferruginous hawk [*]	*Buteo regalis*
Swainson's hawk [*]	*Buteo swainasoni*
green-backed heron	*Butorides srtiatus*
sanderling [2]	*Calidris alba*
dunlin [2]	*Calidris alpina*
western sandpiper	*Calidris mauri*
least sandpiper [2]	*Calidris minutilla*
California quail [*]	*Callipepla californica*
Anna's hummingbird [1,2,*]	*Calypte anna*
Wilson's snipe [2]	*Capella gallinago*
house finch [1,2,*]	*Carpodacus mexicanus*
purple finch	*Carpodacus purpureus*
great egret [2]	*Casmerodius albus*
turkey vulture [*]	*Cathartes aura*

Table B-43: Avian Species (Continued)

COMMON NAME	SCIENTIFIC NAME
varied thrush	*Catharus guttatus*
Swainson's thrush	*Catharus ustulatus*
brown creeper	*Certhia americana*
belted kingfisher	*Ceryle alcyon*
semipalmated plover	*Charadrius semipalmatus*
killdeer [1,2]	*Charadrius vociferus*
lark sparrow	*Chondestes garmmacus*
northern harrier	*Circus cyaneus*
marsh wren	*Cistothorus palustris*
northern flicker [2,*]	*Colaptes auratus*
band-tailed pigeon	*Columba fasicata*
rock dove [1,2]	*Columba livia*
olive-sided flycatcher	*Contopus borealis*
western wood pewee	*Contopus sordidulus*
American crow [1,2]	*Corvus brachyrhynchos*
common raven [2,*]	*Corvus corax*
Steller's jay [*]	*Cyanocitta stelleri*
yellow-rumped warbler [2]	*Dendroica coronata*
snowy egret [2,*]	*Egretta thula*
black-shouldered kite	*Elanus leucurus*
Pacific slope flycatcher	*Empidonax difficilis*
horned lark	*Eremophila alpestris*
Brewer's blackbird [1,2]	*Euphagus cyanocephalus*
Merlin	*Falco columbarius*
American peregrine falcon [2,*]	*Falco peregrinus anatum*
American kestrel [2,*]	*Falco sparverius*
American coot [2,*]	*Fulica americana*
common moorhen	*Gallinula chloroporus*
common loon [2]	*Gavia immer*
common yellowthroat	*Geothlypis trichas*
bald eagle	*Haliaeetus leucocephalus*
black-necked stilt	*Himantoppus mexicanus*
barn swallow [*]	*Hirundo rustica*
hooded oriole [*]	*Icterus cucullatus*
northern oriole	*Icterus galbula*
tree swallow	*Iridoprocne bicolor*
dark-eyed junco [2]	*Junco hyemalis*
loggerhead shrike [2]	*Lanius ludovicianus*
herring gull [1,2]	*Larus argentatus*
California gull [1,2,*]	*Larus californicus*
mew gull [2]	*Larus canus*
ring-billed gull [2,*]	*Larus delawarensis*
glaucous-winged gull [2]	*Larus glaucescens*
Heerman's gull	*Larus heermanni*
western gull [1,2,*]	*Larus occidentalis*
Thayer's gull	*Larus thayeri*
long-billed dowitcher [*]	*Limnodromus scolopaceus*
marbled godwit	*Limosa fedoa*
American widgeon [*]	*Mareca americana*
acorn woodpecker	*Melanerpes formicivorus*

Table B-43: Avian Species (Continued)

COMMON NAME	SCIENTIFIC NAME
Lewis' woodpecker	*Melanerpes lewis*
surf scoter [2,*]	*Melanita perspicillata*
Lincoln's sparrow	*Melospiza lincolnii*
song sparrow [2,*]	*Melospiza melodia*
red-breasted merganser	*Mergus serrator*
northern mockingbird [1,2,*]	*Mimus polyglottos*
brown-headed cowbird	*Molothrus ater*
ash-throated flycatcher	*Myiarchus cinerascens*
long-billed curlew [1]	*Numenius americanus*
whimbrel [2]	*Numenius phaeopus*
willet [2,*]	*Numenius phaeopus*
black-crowned night heron [*]	*Nycticorax nycticorax*
western screech owl [*]	*Otus asio*
ruddy duck [2,*]	*Oxyura jamaicensis*
plain titmouse	*Parus inornatus*
chestnut-backed chickadee	*Parus rufescens*
house sparrow [1,2]	*Passer domesticus*
savannah sparrow [2]	*Passerculus sandwichensis*
fox sparrow	*Passerella iliaca*
Lazuli bunting	*Passerina amoena*
American white pelican	*Pelicanus erythrorhynchos*
California brown pelican [2,*]	*Pelicanus occidentalis*
cliff swallow [1]	*Petrochelidon pyrrhonota*
double-crested cormorant [1,2,*]	*Phalacrocorax auritus*
black-headed grosbeak	*Pheucticus melanocephalus*
Nuttall's woodpecker	*Picoides nuttalli*
downy woodpecker	*Picoides pubescens*
hairy woodpecker	*Picoides villosus*
rufous-sided towhee	*Pipilo erythrophthalmus*
California towhee [2,*]	*Pipilo fuscus*
Pacific golden plover	*Pluvialis fulva*
black-bellied plover [2]	*Pluvialis sqatarola*
horned grebe [2]	*Podiceps auritus*
eared grebe	*Podiceps nigricollis*
pied-billed grebe [2]	*Podilymbus podiceps*
blue-gray gnatcatcher	*Polioptila caerulea*
Sora	*Porzana carolina*
purple martin	*Progne subis*
bushtit (common) [*]	*Psaltriparus minimus*
Virginia rail	*Rallus limicola*
American avocet	*Recurvirostra americana*
ruby-crowned kinglet [2]	*Regulus calendula*
golden-crowned kinglet	*Regulus satrapa*
rock wren	*Salpinctes obsoletus*
black phoebe [2]	*Sayornis nigricans*
Say's phoebe [2]	*Sayornis saya*
Allen's hummingbird	*Selasphorus sasin*
western bluebird	*Sialia mexicana*
red-breasted nuthatch	*Sitta canadensis*
white-breasted nuthatch	*Sitta carolinensis*

Table B-43: Avian Species(Continued)

COMMON NAME	SCIENTIFIC NAME
red-breasted sapsucker	*Sphyrapicus varius daggetti*
pine siskin	*Spinus pinus*
lesser goldfinch	*Spinus psaltria*
American goldfinch	*Spinus tristis*
chipping sparrow	*Spizella passerina*
northern rough-winged swallow	*Stelgidopteryx serripennis*
least tern [*]	*Sterna*
Caspian tern [*]	*Sterna caspia*
Forster's tern [1]	*Sterna forsteri*
western meadowlark [1,2,*]	*Sturnella neglecta*
European starling [1,2,*]	*Sturnus vulgaris*
violet-green swallow	*Tachycineta thalassina*
Bewick's wren	*Thryomanes bewickii*
greater yellowlegs	*Totanus melanoleucus*
California thrasher	*Toxostoma redivivum*
house wren	*Troglodytes aedon*
winter wren	*Troglodytes troglodytes*
American robin [1,2,*]	*Turdus migratorius*
barn owl [2,*]	*Tyto alba*
orange-crowned warbler	*Vermivora celata*
Hutton's vireo	*Vireo huttoni*
Wilson's warbler	*Wilsonia pusilla*
yellow-headed blackbird	*Xanthocephalus xanthocephalus*
mourning dove [1,2,*]	*Zenaidura macroura*
golden-crowned sparrow[2]	*Zonotrichia atricapilla*
white-crowned sparrow [2,*]	*Zonotrichia leucophrys*

Source: U.S. Navy, 1986, 1994e, 1995c, 1996c; City and County of San Francisco, Planning Department, 1994a.

* = Species observed and recorded by local residents.

1 = Species detected during 1995 survey (U.S. Navy, 1995c).

2 = Species detected during previous surveys.

Table B-44: Animal Species

Amphibians, reptiles, and mammals that potentially inhabit HPS and the ROI are listed below. Species recorded from field surveys at HPS are noted.

COMMON NAME	SCIENTIFIC NAME
Amphibians and Reptiles	
rough-skinned newt	*Taricha granulosa*
California newt	*Taricha torosa*
ensatina[2]	*Ensatina escholtzi*
arboreal salamander	*Aneides lububris*
California slender salamander[2]	*Batrachoseps attenuatus*
western toad	*Bufo boreas*
Pacific chorus frog	*Hyla regallia*
western skink	*Eumeces skiltonianus*
northern alligator lizard	*Gerrhonotus coerleus*
southern alligator lizard	*Gerrhonotus multicarinatus*
coast horned lizard	*Phrynosoma coronatum*
western fence lizard[1,2]	*Sceloperus occidentalis*
racer	*Coluber constrictor*
western rattlesnake	*Crotalus viridis*
ringneck snake	*Diadophis punctatus*
common kingsnake	*Lampropeltis getulus*
striped racer	*Masticophis lateralis*
Pacific gopher snake[2]	*Pituophis melanoleucus*
western aquatic garter snake[2]	*Thamnophis couchi atratus*
western terrestrial garter snake	*Thamnophis elegans*
common garter snake	*Thamnophis sirtalis*
Mammals	
pallid bat	*Antrozoas pallidus*
coyote	*Canis latrans*
opossum	*Didelphis marsupialis*
big brown bat	*Eptesicus fuscus*
feral domestic cat[2]	*Felis domesticus*
red bat	*Lasiurus borealis*
hoary bat	*Lasiurus cinereus*
black-tailed hare[1,2]	*Lepus californicus*
bobcat	*Lynx rufus*
striped skunk[2]	*Mephitis mephitis*
California vole	*Microtus californicus*
house mouse[2]	*Mus musculus*
long-tailed weasel	*Mustela frenata*
California myotis	*Myotis californicus*
Yuma myotis	*Myotis yumahensis*
dusky-footed woodrat	*Neotoma fuscipes*
shrew mole	*Neurotrichus gibbsii*
California mouse	*Peromyscus californicus*
deer mouse	*Peromyscus mainculatus*
pinyon mouse	*Peromyscus truei*
harbor seal[2]	*Phoca vitulina*
western pipistrelle	*Pipistellus hesperus*
Townsend's big-eared bat	*Plecotus townsendii*
raccoon[2]	*Procyon lotor*
Norway rat[2]	*Rattus norvegicus*
black rat	*Rattus rattus*
western harvest mouse	*Reithrodontomys megalotis*
broad-footed mole	*Scapanus latamanus*

Table B-44: Animal Species (Continued)

COMMON NAME	SCIENTIFIC NAME
Mammals ***(continued)***	
eastern gray squirrel	*Sciurus carolinensis*
western gray squirrel	*Sciurus griseus*
ornate shrew	*Sorex ornatus*
Trobridges's shrew	*Sorex trobridgii*
vagrant shrew	*Sorex vagrans*
California ground squirrel[1]	*Spermophilus beecheyi*
spotted skunk	*Spilogale gracilis*
Audubon's cottontail	*Sylvilagus audubonii*
brush rabbit	*Sylvilagus bachmani*
Brazilian free-tailed bat	*Tadarida braziliensis*
badger	*Taxidea taxus*
Botta's pocket gopher[2]	*Thomomys bottae*
gray fox	*Urocyon cinereoargenteus*
red fox[2]	*Vulpes vulpes*

Source: U.S. Navy, 1995c; City and County of San Francisco, Planning Department, 1994a.

1 = Species detected during 1995 survey (U.S. Navy, 1995c).

2 = Species detected during previous surveys (City and County of San Francisco, Planning Department, 1994a).

Sedway & Associates

Real Estate Economics

MEMORANDUM

To: Byron Rhett and Alan Loving, San Francisco Office of Military Base Conversion

CC: Karen Alschuler, SMWM

From: Naomi Porat, Sedway & Associates

Date: May 24, 1995

Subject: Technical Summary of Hunters Point Shipyard Real Estate Market Projections

---

Sedway & Associates ("S&A") is pleased to submit this technical memorandum summarizing our findings of the market support for land uses represented in the *Hunters Point Shipyard Land Use Alternatives and Proposed Draft Plan* ("Draft Plan").[1] The purpose of the market research is threefold: (1) to test the market support and reasonableness of the Hunters Point Shipyard Land Use Plan and recommend land use adjustments to reflect market demand; (2) to provide input for designing the development phasing program at the Hunters Point Shipyard ("Shipyard"); and (3) to commence initial long-term marketing efforts with major users as a vehicle to further test the validity of the Plan's key special uses (i.e., education and training, arts facilities).

S&A's market analysis involved review of relevant documents and plans produced to date on the Hunters Point Shipyard reuse and planning effort. In addition, S&A evaluated the research methodology and findings of the Hunters Point Shipyard market analysis produced by Williams-Kuebelbeck & Associates ("WK&A"). This task involved extensive market research utilizing reports and data prepared by local real estate brokers, the Association of Bay Area Governments, Urban Land Institute, U.S. Census, San Francisco Redevelopment Agency, San Francisco Planning Department, U.S. Department of Commerce, San Mateo County Economic Development Association, and Arthouse. In addition to utilizing secondary data sources for conventional real estate development, S&A also conducted primary research to identify support for niche markets such as arts, cultural and educational training facilities.

---

[1]Office of Military Base Conversion, The San Francisco Redevelopment Agency and The Planning Department, City and County of San Francisco; *Hunters Point Shipyard Land Use Plan: Land Use Alternatives and Proposed Draft Plan.* March 1995.

Three Embarcadero Center
Suite 1150
San Francisco
California 94111

Tel (415) 781-8900
Fax (415) 781-8118

SUMMARY OF FINDINGS

This memorandum presents S&A's conclusions of absorption potential and build-out of the following uses at the Shipyard from 1996 to 2025:

- Light Industrial
- Research and Development
- Residential
- Arts and Cultural Facilities
- Educational and Training
- Retail

A summary of S&A's build-out and land utilization forecasts, in comparison to the WK&A and Draft Plan projections, is provided in Table 1. The corresponding employment projections by land use are provided in Table 2.

As indicated in Table 1, S&A projects that the 500-acre Shipyard could potentially capture approximately 4.1 million square feet of real estate development (including rehabilitation of existing buildings) and generate 6,647 permanent jobs during the next 30 years. In contrast, the Draft Plan is based on a range of 4.0 to 6.2 million square feet of development during the next 30 years. The major variances, which accounts for 2.1 million square feet between the Draft Plan (maximum projections) and S&A's projections, are in research and development build-out and live/work unit development potential. S&A's projections are slightly greater than WK&A forecasts (which differ from the Draft Plan and are based on projections to the year 2015) due to S&A's projections of an additional 200 housing units and WK&A's omission of significant arts-, cultural- and educational/training-related development opportunities.

The focus of this memorandum is a brief explanation of S&A's forecast methodology. In general, S&A based the forecasts on an analysis of current market conditions, historical development trends, industry growth rates, employment forecasts, and relevant real estate product performance indicators to project market support for major real estate development at the Shipyard through the year 2025. Although defensible methodologies were employed to determine these long-term forecasts, it is important to recognize the magnitude of uncertainty that is inherently involved in projections beyond a ten-year time frame. External unanticipated factors such as future economic recessions, international trade and currency policies, or natural disasters could significantly impact development potential. However, for the purpose of regulatory and planning requirements to complete the reuse plan, these projections represent the maximum development envelope and hence can be reasonably utilized for transportation, infrastructure and environmental costing and impact purposes.

Although S&A was not specifically requested to conduct an industry sectoral analysis to determine the specific types of industries and firms that would locate at the Shipyard, we reviewed the industries projected in the Draft Plan and WK&A study for reasonableness. In sum, S&A concurs with the conclusions that the following industries will most likely be the primary business prospects for the Shipyard based on regional and national trends: printing and publishing, medicinals and botanicals, trucking and courier services, wholesale sales, food products, motion picture production, electromedical equipment, etc.

The following provides a concise summary of S&A's real estate market analysis conclusions and methodology, with the data tables appended to the memo.

LIGHT INDUSTRIAL MARKET

Overview of the Market

S&A researched the light industrial markets within San Francisco and northern San Mateo County to determine the potential for capturing new light industrial demand generated in these markets. Light industrial uses include light assembly, warehouses, printing operations, and other industrial uses that result in modest impacts on surrounding properties.

The primary market area is defined as a seven-mile radius from the Shipyard, including the City of San Francisco and northern San Mateo County. The market area is defined as the general location in which firms would be indifferent in site selection assuming that site-specific locational advantages are adjusted in price and amenities. Although the type of industrial space in San Francisco and northern San Mateo County varies significantly, proximity to the Bay Area's central employment hub, proximity to the San Francisco International Airport, and price comprise the driving forces for site selection in this market area.

The San Francisco light industrial market is characterized as mature and stable with small- to medium-sized buildings ranging from 5,000 to 150,000 square feet. The total light industrial inventory in San Francisco was approximately 30.6 million square feet in 1994, located predominantly in the South of Market (12.6 million square feet), Third Street Corridor (12.7 million square feet), Bayview (4.4 million square feet), and Mission District (900,000 square feet) areas. Although new construction and absorption have been negligible in the past ten years, rehabilitation and retrofitting activities have been active to accommodate the burgeoning multimedia industry, particularly in the South of Market area. San Francisco's older industrial stock is burdened by toxic contamination and unreinforced buildings. Many prime industrial buildings along San Francisco's Waterfront and South of Market area continue to be subject to conversion for higher value uses such as live/work units, office space, and restaurants.

The existing inventory of industrial buildings at the Shipyard is approximately 2.3 million square feet, of which approximately 740,000 square feet are currently leased to small businesses. The tenants include a mix of approximately 542,000 square feet of light industrial businesses (e.g., roller skate manufacturer, warehouse storage, sheet metal manufacturer), 38,000 square feet of research and development (e.g., metal testing lab, quality assurance testing, sound and recording studio), and 120,500 square feet of artists studios. It appears that a significant portion of the non-leased buildings and a portion of the leased buildings suffer serious deterioration and will require demolition. S&A will determine the feasibility of rehabilitating existing leased buildings for short- or long-term occupancy, based on the building evaluation in process by Manna Construction.

Although northern San Mateo County's industrial stock of 21.5 million square feet is approximately 9 million feet smaller than San Francisco's inventory, the area has been achieving more net absorption and construction activity during the past ten years than San Francisco's market. For example, northern San Mateo County captured approximately one-half million square feet of new development in the past decade compared to no new net industrial growth in San Francisco. Another indicator of northern San Mateo County industrial market's strength relative to San Francisco's market is evidenced by its approximate 6.5 percent vacancy rate in 1994, compared to 8.5 percent in the San Francisco industrial market. The industrial stock in northern San Mateo County is characterized by newer, single-story, concrete tilt-up type buildings.

The mix of small start-up technology industries and mature industries that are located in the older industrial space in San Francisco, in addition to the more recent development of technology headquarters (and back-office space) captured by northern San Mateo County, is representative of the type of firms that will be attracted to the Shipyard over the 30-year build-out. S&A anticipates that the small start-up firms will be the pioneering users in the Shipyard development's early years; and, hence, the "mixed use" area along the Shipyard's northern waterfront is targeted as the first phase for development. Established companies seeking large development sites will most likely not be attracted to the Shipyard until later phases (2011 and beyond) when major transportation improvements are complete, physical amenities are installed, and San Mateo County has absorbed many of its development sites. The Shipyard will most likely not compete with developable land in southern San Mateo or Santa Clara counties, which have attracted the nation's leading technology firms due to the synergistic operation of the industry, which requires proximity and concentration.

Absorption Forecast Methodology

S&A's light industrial market projections are based on historical and current industrial building inventory, annual construction, occupied and vacant space, annual net absorption, industrial employment projections, industrial build-out for major industry sectors, industrial land and lease comparables, and other industrial performance indicators for the primary market area. The following section describes S&A's industrial projections methodology as summarized in Table 3, with the back-up support data provided in Tables 4 through 8 appended to this memo.

Potential absorption of industrial development at the Shipyard is based on projected employment-driven growth in demand for industrial space in the market area and S&A's determination of a reasonable capture within the Hunters Point Shipyard. The demand for industrial space, referred to as "industrial growth rate" in Table 3, is a function of employment growth projections produced by the Association of Bay Area Governments (ABAG) and industrial space utilization rates for each major employment sector as compiled by the Urban Land Institute (ULI). The market area employment projections calculations are presented in Table 4. For example, whereas 100 percent of manufacturing employees are located in industrial space, ULI studies indicate that approximately 40 percent of wholesale employees utilize industrial space. Applying these industrial space utilization rates by employment sector and ABAG employment projections compiled for the market area during the study period, S&A calculated the number of employees requiring industrial space during the next 30 years.

The projected "industrial inventory" and "occupied space" in Table 3 are based on the market area's current inventory and forecasted growth rates. S&A compiled data on the current and historical market conditions from the San Mateo County Economic Development Association, Grubb & Ellis, CB Commercial, and the California Development Department (see Table 5). The "total potential new development" projection in Table 3 is based on the projection of "net new demand" (i.e., the change in occupied space) less a portion of the existing vacant industrial stock in the market area.

The "total potential absorption" of industrial space at the Shipyard (Table 3) represents the total potential for new development in the market area multiplied by an estimated capture rate for the Shipyard. S&A's estimated Shipyard capture rates are based on the Bayview/Hunters Point historical and current share of the industrial building and vacant industrial zoned land inventory in the market area (see Table 6), adjusted for the Shipyard's access, infrastructure (and assumed improvements over time), environment, and critical mass of development.

In addition, given the significant inverse relationship between absorption and pricing (i.e., as pricing decreases absorption increases), there is a pricing assumption embedded in the projected capture rates. Specifically, S&A assumes that the Shipyard industrial lease and land sale prices will be initially slightly lower than the Mission Bay/South Bayshore market rates and in the long term relatively comparable to northern San Mateo County rates. For example, in the near-term, the "market" rate for industrial leases at the Shipyard is slightly higher than the current leases, but lower than lease rates in comparable space in the Mission Bay/South Bayshore industrial market as outlined in Table 7. Back-up lease comparable data are provided in Table 8.

The capture rate is assumed to be relatively low during the first five years of the Plan, which precedes major infrastructure, access and environmental improvements. It is assumed that by Phase II (commencing in year 2001), the Shipyard's capture rate will increase to 8 percent, which is comparable to the Hunters Point/Bayview current share of the market area's industrial build-out, vacant inventory and occupied industrial inventory. By Phase III (commencing in year 2006), it is assumed that the Shipyard's capture rate is 10 percent, which surpasses the existing Hunters Point/Bayview capture of industrial space in the market area due to the Shipyard's availability of large development sites, implementation of significant infrastructure and access improvements, and almost full implementation of the environmental remediation program. S&A projects that the capture rate at the Shipyard will not exceed 15 percent, primarily due to market competition as well as unmitagatable access constraints.

Conclusions

In sum, S&A projects that the Shipyard could potentially capture a total of 1.2 million square feet of industrial development over the 30-year buildout assuming that significant investments are made in infrastructure, access, marketing, and environmental improvements. In Phase I, approximately 95,200 square feet of new and rehabilitated industrial development is estimated to be captured at the Shipyard. In addition, based on conversations with San Francisco Municipal Railway (SFMuni), S&A included an additional 291,500 square feet of space for its railyard, resulting in a total of 386,700 square feet of industrial space absorbed in Phase I. S&A projects that the Shipyard could absorb approximately 127,200 square feet of industrial development in Phase II (2001 - 2005); 50,500 square feet in Phase III (2006 - 2010); 164,200 square feet in Phase IV (2011 - 2015); 240,600 in Phase V (2016 - 2025); and 279,500 in Phase VI (2021 - 2025). The decrease in industrial demand in Phase III accounts for the natural cyclical business trends as reflected in ABAG's forecasting model.

As a final check on the reasonableness of these industrial projections, S&A compared the market area's historical annual average industrial construction rates with the projections for the Shipyard. The annual average industrial construction in northern San Mateo County during the past 15 years was approximately 126,000 square feet.[2] S&A's annual average industrial development projection over the

[2]The total square feet of industrial construction during the past 15 years is not available. However, according to brokers there has been insignificant new industrial development in San Francisco during this period.

Shipyard's 30-year build-out is approximately one-third of northern San Mateo County's historical performance, or 42,000 square feet per year. Hence, these forecasts are reasonable and conservative.

RESEARCH AND DEVELOPMENT MARKET

Overview of the Market

S&A researched the San Francisco and northern San Mateo County research and development (R&D) markets to forecast potential absorption at the Shipyard. In general, R&D space is a subset of light industrial real estate, differentiated by the amount of office space (i.e., typically 15 percent), significant site and building amenities (e.g., parking ratios of at least 3 per 1000 square feet, building clear heights less than 18 feet, and ample glass and light), in addition to the users' stage in the business life cycle (i.e., early production phase). Users in the Bay Area primarily consist of electronics, software, biotechnology, multimedia, and environmental industries. Although the R&D inventory is very small and in its nascent stage in the market area, S&A projects significant opportunities for growth. The market area's central location, proximity to major universities and highly educated workforce provide strong advantages for capturing these industries.

San Francisco's R&D development is occupied by either small start-up businesses or larger institutional users. As discussed previously, the small start-up businesses are generally located in retrofitted older industrial stock in San Francisco's South of Market area. The larger institutional users generally own their buildings, such as UCSF and Gladstone Institute.

In contrast, northern San Mateo County's R&D market has grown rapidly in the past decade due to its central location and lower prices, but this growth has been from a low base. Between 1986 and 1994, the R&D inventory in northern San Mateo County grew from 112,800 square feet to 930,000 square feet (see Table 10). Furthermore, the 7.3 percent vacancy rate in the northern San Mateo County R&D inventory was significantly lower than southern San Mateo County's overall 10.2 percent R&D vacancy rate in 1994. Northern San Mateo County's R&D monthly lease rates range from $0.80 to $1.10 per square foot, compared to up to $1.50 in the County as a whole.

S&A believes that the Shipyard could benefit in the future from the northern movement of Peninsula R&D firms into northern San Mateo County if aggressive marketing is undertaken. The Shipyard offers many attractive features for R&D firms such as large development sites, proximity to major research universities (UCSF, Stanford, UC Berkeley), and potentially competitive prices.

Absorption Forecast Methodology

S&A's methodology for forecasting the Shipyard's potential absorption of R&D space during the next 30 years is similar to the light industrial forecast methodology outlined earlier in this report. Table 9 presents S&A's methodology and conclusions.

According to ABAG, the northern San Mateo County market area is anticipated to capture approximately 800 to 1,000 new R&D jobs each five-year increment, or a total of 5,900 R&D jobs during the next 30 years. Based on ABAG's R&D employment density of 350 square feet per employee, S&A estimates that the gross demand for R&D space in the market area could be approximately 2.1 million square feet during the period 1996 - 2025.

Conclusion

In total, S&A projects that the Shipyard could absorb approximately 390,500 square feet of R&D space during the project's 30-year build-out, based on an overall capture rate of approximately 19 percent. S&A's projections are slightly less than WK&A's projection and significantly less than R&D build-out projections represented in the Shipyard's Draft Plan (770,000 to 1,150,000 square feet).

S&A anticipates that the Shipyard could capture only a small proportion of the market area's R&D space demand in the project's first ten years. The initial pioneering users related to the arts, such as video or music production, could be attracted to the Shipyard to obtain low rents in a nontraditional and isolated setting. Assuming a 5 percent capture rate in the first five years, the maximum R&D development potential in Phase I (1996 - 2000) is estimated to be 13, 700 square feet, indicating the initial users will occupy renovated existing space at the Shipyard. As indicated in the summary table (see Table 1), approximately 60,000 square feet of R&D build-out in the first two phases is assumed to be located in the "mixed-use" area programmed for the Shipyard's northern waterfront.

Assuming that by Phase II (2001 - 2005) the Shipyard's northern waterfront properties will be cleared of debris and landscaped, offering spectacular open views of the City and Bay in addition to an important waterfront open space amenity, the capture rate is projected to increase to 15 percent of the market area's total R&D development.

S&A assumes that the capture rate increases to 20 percent By Phase III (2006 - 2010), resulting in the absorption of an additional 65,200 square feet of new R&D development. For the remaining three phases (2011 to 2025), S&A assumes a stabilized capture rate of 25 percent of the market area's development, indicating a potential absorption of 84,100 square feet of new R&D space during the period 2011 - 2015, 88,300 square feet during the period 2016 - 2020, and 92,500 square feet during the period 2021 - 2025.

Similar to the industrial forecasts, the capture rates and associated absorption schedules projected for the Shipyard are based on pricing (lease rates and land prices). A discount from average lease rates in San Francisco and northern San Mateo County is essential to account for the Shipyard's access constraints. For example, whereas the average R&D monthly lease rates in the market area are in the range of $0.80 to $1.10, the Shipyard most likely could not expect to obtain lease rates greater than $0.80 per month for R&D space. This pricing projection is assumed to be in the lower end of the current market rate ranges. This discounting is necessary to achieve a level of indifference between locating at the Shipyard or at nearby locations that do not have the same access constraints as the Shipyard. This relationship would be particularly strong in the Phase I when major infrastructure access and environmental improvements are incomplete.

RESIDENTIAL MARKET

Market Overview

S&A conducted targeted research on the residential market in San Francisco, specifically focusing on development trends, household growth, and potential capture rates. The primary market area in which new housing at the Shipyard would likely compete is San Francisco and the southeast quadrant of the City.

Townhome and Condominium Market. S&A focused on San Francisco's townhome and condominium market as the primary type of residential development that would most likely be built by developers due to both financial feasibility considerations and market demand. An analysis conducted by S&A indicates that sales and construction activity in San Francisco has been strong, averaging approximately 440 units annually during the 1990 through 1994 period. Most of the new developments in the past five years have been located in highly desirable locations, such as Baycrest, located near the southern waterfront; the Sutterfield on Cathedral Hill; Portside, located under the Bay Bridge on the southern waterfront; and Parc Telegraph on the northern waterfront. With the exception of Stoneridge, an economical project in the southeast quadrant of the City, there has been a dearth of new large-scale non-subsidized townhome or condominium developments that are priced less than $250,000 per unit, or $200 to $340 per square foot. High land prices for San Francisco's remaining residentially zoned land can be attributed to this trend. Hence, significant pent-up demand exists for new for-sale attached residential units in this price range.

The only active single-family residential market in San Francisco is in the Bayview/Hunters Point area due to significant assistance and promotion by the San Francisco Redevelopment Agency. Sales prices for the new market rate single-family and townhome units in the southeast area of San Francisco are in the range of $140,000 to $200,000, or $120 to $165 per square foot as indicated in Table 11. This price range includes the nonsubsidized Stoneridge project of 94 townhomes on Geneva Avenue.

Live/Work Units. The "live/work" market in San Francisco has experienced a large increase in the level of activity as evidenced by new construction and rehabilitation of existing industrial buildings to live/work space The primary factors contributing to this development activity have been changing work practices, which have been aided by technological innovations, the desirability of this type of space by young urban dwellers, and pent-up demand by first-time homebuyers seeking central city housing. Furthermore, 1988 changes to the San Francisco Planning Code significantly improved the viability and increased the available sites for development of live/work units. For example, the recent changes permit live/work units and arts activities as a principal use in manufacturing and commercial districts and allow for the conversion of buildings to joint living and work quarters for artists.

Most of the recent "live/work" developments, relatively unaffordable to San Francisco's artists community, have attracted young professionals seeking unconventional dwelling spaces that offer flexible working options. As indicated in Table 12, the sales price range for recent live/work condominium developments in San Francisco is $100,000 to $495,000 or $170 to $225 per square foot, significantly higher than the new single-family and attached housing developments in the City's southeast area.

In contrast, the more affordable live/work units targeted to artisans and self-employed non-artists are generally rental projects developed in rehabilitated older industrial buildings. Table 13 highlights rental live/work projects in San Francisco and Oakland. As indicated, the average rent and size for rental live/work loft projects in San Francisco is $0.88 per square foot per month for 950-square-foot spaces. These projects are achieving exceptionally high occupancy rates relative to the overall San Francisco rental market. Oakland live/work rentals are relatively larger, averaging 1,286 square feet per unit, and less expensive, averaging $0.61 per square foot compared to the San Francisco market. Initially, the Oakland market will set the standards for the Shipyard's new live/work units in order to capture the increasing migration of artists and self-employed entrepreneurs who are leaving San Francisco to obtain affordable live/work space in Oakland.

Absorption Forecast Methodology

For Sale Attached Units. S&A prepared an estimate of potential demand for new for-sale attached housing in San Francisco during the period 1996 to 2025 in the price range of $100,000 to $250,000, as presented in Table 14. This price range represents the current low to upper limit sales prices available at developments in the southeast quadrant of the City. As indicted in Table 14, the Shipyard potential absorption projections are a function of demand generated by new household growth as well as turnover among existing San Francisco households. S&A relied upon ABAG's household growth projections that are derived from employment growth, household formation rates, income, age distribution, stages in households' life cycle, land availability, cost of housing, and other economic factors (see Table 15).

S&A's housing demand projections also utilize numerous other housing figures, such as the differential propensity of new versus existing households to purchase rather than rent, the propensity to purchase an attached versus detached home as indicated by historic sales data, and the propensity to purchase a new versus existing attached home. Moreover, housing demand in San Francisco tends to be supply-driven. Hence, appropriately priced, good quality product almost always has the potential to capture new household growth.

S&A projects that the annual demand for new attached housing units in the $100,000 to $200,000 price range in San Francisco may be between 770 to 880 annually in both the short- and long-term. This projection appears realistic given historical building permit data. Although the average annual number of multifamily residential building permits issued in San Francisco during the past five years was 800 units, the annual average permits issued during the past 25 years was 1,515 (see Table 16). In recent years, San Francisco's new supply of for-sale attached units has been predominantly priced above $300,000. Hence, San Francisco's housing market has significant pent-up demand for owner-occupied housing affordable to the professional workforce with household incomes in the range of $25,000 to $63,000.

The Shipyard capture rates indicated in Table 14 are based on San Francisco development trends, available land and S&A's professional judgment. Based on the projected demand and capture rates (see Table 14), S&A estimates that approximately 980 attached for-sale residential units could be absorbed at the Shipyard in the first ten years of redevelopment, a figure higher than the maximum 800 housing units set forth in the Shipyard's Draft Plan. Hence, the total residential development potential of 800 units presented in the Summary Table 1 is based on policy priorities rather than development constraints.

Live/Work Residential Units. S&A's preliminary analysis of the live/work market and discussions with local developers indicate significant demand for affordable live/work rentals and condominiums. However, market acceptance of live/work units at the Shipyard's designated mixed-use area will require significant physical improvements at the site (e.g., clearance of vacant buildings, green area along the waterfront), a critical mass of commercial development (i.e., services, retail and artisan activities), and permanent security. Based on absorption projections for other uses, S&A has assumed that live/work developments will most likely not occur for at least ten years, or not until Phase III of the Shipyard's development when the mixed-use area has been significantly built-out.

Commencing in Phase III (2006), S&A estimates that approximately 20 rental and condominium live/work units per year could be absorbed at the Shipyard if appropriately priced. As a frame of reference, the 18th and Arkansas live/work condominium development has achieved monthly absorption of approximately 1.6 units, or almost 20 units per year for the market rate units in the price range of $140,000 to $305,000. According to the realtor of the subsidized artists' live/work condominium units priced in the range of $70,000 to $125,000, there is currently an application list of 350 people for the 18 units.

Conclusion

In sum, S&A has included 1,300 residential units in the Shipyard's 30-year development projections, including 800 for-sale townhome units and 500 rental and condominium live/work units. The 800 for-sale townhome units in the Draft Plan represent approximately 20 percent of the total housing inventory projected for the South Bayshore area during the 30-year period (1996 - 2025), based on ABAG data (see Table 15).

CULTURAL AND EDUCATIONAL FACILITIES

Market Overview

S&A analyzed secondary source data and conducted primary research to identify development opportunities for cultural and educational facilities at the Shipyard. Cultural and educational facilities include entertainment activities, museum and other cultural uses, arts-related businesses, artistic enterprises and activities, vocational training, public educational services, and private training institutions.

According to the San Francisco *Commerce and Industry Inventory,* produced by the San Francisco Department of City Planning, the cultural/institutional sector in San Francisco has been the fastest growing economic sector in San Francisco. For example, between 1976 and 1990, the percentage change in cultural/institutional employment was 93 percent, compared to a 45 percent overall employment change in San Francisco. Furthermore, the cultural/institutional industry represents one of the top three sectors that generated most of San Francisco's employment growth during the period between 1976-1990.[3] During this 14-year period, the cultural/institutional sector added 50,000 jobs to the San Francisco employment base.

Despite the proliferation of cultural/institutional uses citywide, the Bayview area had the least number of cultural/institutional establishments in San Francisco, according to the 1987 County Business Patterns. For example, Bayview was home to only 50 cultural/institutional facilities, or less than one percent of the City's total inventory. Of the 50 establishments in the Bayview area, the majority (80 percent) were social and health services and membership organizations. Eliminating these categories, there were only 12 cultural facilities in the Bayview in 1987, compared to 50 in the Mission District.

These overall cultural/institutional economic indicators, coupled with surveys conducted by S&A, indicate relatively strong demand for facilities at the Shipyard. However, the supply and development of cultural and educational facilities are generally driven to a greater extent by available funding sources and policy priorities than demand. Most of the cultural institutions in San Francisco and a large proportion of the educational facilities are owned and operated by nonprofit or public institutions.

---

[3]San Francisco Department of City Planning, *Commerce and Industry Inventory,* June 1992, p.26.

According to a study conduct by the San Francisco Arts Commission, 52 percent or $48 million of the 1985 annual income of San Francisco's nonprofit arts organizations was contributed by government, foundations and corporate grants. Due to major cutbacks in government funding for the arts and associated increased demand on the private sources, the major constraint to cultural/educational facilities at the Shipyard is financial resources.

Absorption Forecast Methodology

Given that cultural and educational development is primarily driven by funding availability and policy priorities, S&A utilized the build-out figures published in the Shipyard's Draft Plan as the "policy directive." Our methodology for verifying the reasonableness of the Draft Plan's land dedication to these uses involved test marketing to targeted cultural and educational facilities in the Bay Area. The test marketing approach enabled S&A to screen a sample of local cultural and educational organizations regarding their potential expansion or relocation plans, interest in the Shipyard as a new or satellite location, and key factors for relocation. The survey results provide the basis for identifying a sample prototype distribution of cultural and educational facilities that could be developed at the Shipyard.

Prototype of Cultural Facilities Projected for the Shipyard

Cultural uses covers a broad spectrum of activities in the San Francisco Zoning Code (Section 102.2) including performance, exhibition, rehearsal, production, schools, arts spaces for galleries and studios, commercial arts and art-related business services, etc. S&A assumes that the type of cultural uses that will be attracted to the Shipyard will comprise a mixture of nonprofit arts uses and arts-related private enterprises. These uses are designated for the Shipyard's "cultural" and "mixed-use" districts as programmed in the Draft Plan.

The following tenant types were identified through survey work and targeted test marketing conducted by S&A: museum, performance theater, production and recording, dance studios, publishing and printing, artist studios, and galleries. Table 17 provides a summary of the type of cultural and educational facilities that may be attracted to the Shipyard and associated annual participation rates for the purposes of determining traffic generation. The uses listed in Table 17 are prototypes for the "cultural" complex area of the Draft Plan. The artist studios and galleries are included in the "mixed-use" build-out projections.

Museum. Sufficient interest has been demonstrated for a museum at the Shipyard to showcase the Shipyard's history and industry, and the history of African-Americans, Native-Americans, as well as other local communities that have a historical link to the Shipyard. Based on input from the planning team, approximately 45,000 square feet of space for the museum has been included in S&A's projections. A large proportion of this space could be utilized for the Shipyard's history and industry museum, including unique industrial relics dismantled during redevelopment and demolition.

Although the local neighborhood, city residents and tourists would provide the patronage support, private and public assistance would be required to provide the financial support for a museum.

Performance Theater. Similar to the museum's source of support, a theater at the Shipyard could potentially attract sufficient patronage yet still require significant public and private subsidies for operations. Based on a survey of three local performance theaters, patrons generally provide less than one-quarter of theaters' operating budgets. A theater group could potentially utilize an existing building of approximately 5,000 square feet for theater performances and other productions. Table 18 provides a summary of S&A's local theater research.

Production and Recording. S&A interviewed key representatives from Bayview Opera House, Eco-Rap, and Life on the Water to determine potential for a production and recording studio at the Shipyard. Based on existing recording programs offered at Bayview Opera House in addition to the interest and need to expand the programs, an opportunity exists to create a for-profit/nonprofit production and recording studio at the Shipyard focusing on meeting the needs of musicians, recording artists, singers, producers, and related music and multimedia professionals. In addition, a Shipyard production and recording studio may benefit from a partnership with San Francisco State's recording arts curriculum.

Dance Studios. S&A interviewed a key representative from a dance troupe currently based in the Bayview community. Although the dance troupe is not prepared to occupy space at the Shipyard in the near term, long-term opportunities may be developed as the cultural facilities component of the reuse plan begins implementation. Specifically, as related arts and education organizations occupy space at the Shipyard, the representative mentioned an interest in becoming part of the Shipyard's artist community.

Publishing and Printing. Publishing and printing represents one of many arts-related industries that could be attracted to the Shipyard by promoting the art-related development theme. Many of these industries require large floor plates and could benefit from locating proximate to their consumer base. S&A included a total of 25,000 square feet for these uses.

The potential growth markets for publishing and printing are well-documented by the U.S. Commerce Department. As an example, publishing and printing is a robust $177 billion industry in the U.S. with approximately 60,000 firms and between 1 million and 2 million employees.[4] The U.S. Commerce Department anticipates the industry will grow at a steady annual average rate of 3 percent in constant dollars. Most of the growth in demand for this industry's products will be driven by household growth, creating new markets for print advertising materials, including magazines, catalogs, and direct mail; in addition, business growth will contribute to expanding demand for industry products.

Artist Studios. S&A analyzed the artist studio market in San Francisco and the East Bay to determine potential demand and support for expanding upon the existing artist community at the Shipyard. Surveys of comparable studio developments, artists, and studio developers confirmed that there is significant pent-up demand for studio space with appropriate amenities in the rental range of $0.50 to $0.75 per square foot per month.

S&A estimates that there are currently approximately 600 artist studios in San Francisco's South of Market, Mission, Potrero and Bayshore neighborhoods, including the Shipyard studios. The average studio size in these neighborhoods is approximately 900 square feet renting within the range of $0.50 per square foot (Bayview) to $1.00 per square foot (South of Market), depending upon location and amenities. Table 19 provides a distribution of studio space by size for these neighborhoods, excluding the Shipyard. Most of these studios are located in converted industrial buildings that offer minimal amenities or appropriate lighting and often lack basic utilities. It is likely that the majority of these

[4]U.S. Department of Commerce, *U.S. Industrial Outlook 1994*.

studios were developed (or rehabilitated) during the past 30 years as San Francisco's waning industrial sector resulted in creative adaptive reuses for the vacated industrial buildings.

S&A surveyed larger studio complexes, built or renovated specifically for artist use, as the appropriate comparables for development or reuse of existing buildings at the Shipyard. As noted in Table 20, most of the larger studio centers have been organized by cooperative artist ventures. The more successful studio complexes offer a range of studio sizes, gallery space and workshops for the general public.

Galleries. S&A conducted an assessment of San Francisco's gallery market to determine the potential for gallery space at the Shipyard. The San Francisco market includes more than 500 galleries throughout the City. The greatest concentration of galleries in San Francisco is located in the downtown/Sutter Street, South of Market/Mission District, and North Beach/Fort Mason/Fisherman Wharf areas. In general, the South of Market/Mission District galleries focus on local artists, in contrast to the other major high-rent districts that focus on high sales volume turnover.

S&A's market research indicates potential support for small gallery spaces at the Shipyard that feature on-site, neighborhood and San Francisco artists. Most of San Francisco's galleries that show local art are formed and operated by cooperatives of artists seeking space to show their work. As indicated in Table 21, cooperative galleries are typically small (1,800 to 3,000 square feet) and generally focus on show space rather than sales. Based on these data, S&A estimated that a maximum development of 2,500 square feet every five years could potentially be supported by on-base and neighborhood artists. As the artist colony and related cultural activities develop at the Shipyard, tourism could be a significant source of support for on-site galleries.

Prototype of Educational Facilities at the Shipyard

Based on community priorities and test marketing to educational facilities in the Bay Area, S&A included the dedication of approximately 460,000 square feet of nonprofit, private, and public educational institutions in the Shipyard's 30-year development program. Table 22 provides a sample of the potential space distribution of these facilities at the Shipyard and estimated annual participation rates. Type of space uses include private vocational training school, non-profit vocational training collaborative, public educational programs, horticulture and food training program, and art school and artist residency program. Brief summaries of the potential tenants follows.

Private Vocational Training School. The Sequoia Institute is a private vocational training school specializing in climate control and refrigeration, automotive technology and diesel technology. The Institute recently expanded from 35,000 square feet to 100,000 square feet in its Fremont facility and would be interested in further expansion. According to the Institute's president, the Shipyard would be an excellent location for a training center if favorable economic terms could be established. The Institute currently pays an average monthly lease rate of $0.70 per square foot. Their minimum expansion needs is 125,000 square feet.

The Institute's current student population is 1,200, of which approximately three-quarters are Bay Area residents. The remaining one-quarter of their student population is from outside the Bay Area (southern California, Washington, Oregon, Idaho and Nevada). Approximately 88 percent of the student population are males in the 18 to 34 age group. Although tuition is very high ($9,600 to $12,000), many of the Institute's students obtain Job Training Partnership Act (JTPA) funds and other scholarships. The

Institute is an excellent example providing vocational training for high paying jobs to the existing Bayview/Hunters Point community.

Although the refrigeration and automotive industries have been national growth sectors, there are few local competitors to the Sequoia Institute. Hence, they are interested in expanding and touring the site for their future planning endeavors.

Nonprofit Vocational Training Collaborative. S&A surveyed five San Francisco nonprofit training organizations to determine their potential interest in relocating to or expanding at the Shipyard (see Table 23). Based on targeted interviews, an opportunity exists to create nonprofit vocational training collaboratives at the Shipyard focusing on meeting the training or recruitment needs of Shipyard businesses. Established organizations such as the Goodwill Industries and Arriba Juntos expressed interest in assisting with the development of collaborative programs at the Shipyard.

Public Educational Programs. S&A interviewed key representatives from the San Francisco Unified School District and San Francisco City College (SCC) to determine potential for public educational programs at the Shipyard. Although neither institution is prepared to occupy space at the Shipyard in the near term, long-term opportunities may be developed with creative programming and financing mechanisms.

SCC will commence the process of developing a Master Plan in the spring of 1996 to assess centralization versus decentralization of their facilities. SCC currently operates in approximately 1.3 million square feet of space, which they predominantly own. Their large real estate portfolio in San Francisco presents interesting opportunities for potential land swaps with the San Francisco Redevelopment Agency if SCC eventually seeks program consolidation.

The San Francisco Unified School District representative interviewed indicated that there is not sufficient population in the South Bayshore area at this point in time for the development of a new school in addition to the new middle school currently under construction. However, the facilities manager is interested in assessing residential and household projections for the area to determine whether a new school may be warranted in the future. In addition, SFUSD may be interested in participating in training programs at the Shipyard or developing school-to-work partnerships with the private enterprises.

Horticulture and Food Training Program. S&A surveyed three San Francisco nonprofit organic gardening organizations to determine their potential interest in expanding their programs at the Shipyard. In addition, S&A interviewed a key representative from a San Francisco-based culinary school to determine the school's interest in developing a satellite culinary program at the Shipyard. Based on these interviews, an opportunity exists to develop a full-service horticulture and food training program at the Shipyard. Established nonprofit organic gardening organizations such as The Garden Project, San Francisco League of Urban Gardeners (SLUG), and Project Open Hand/Fresh Start Farms expressed interest in assisting with the development of a horticulture (organic garden and composting) and food training program.

Art School and Artist in Residency Program. S&A surveyed several representatives from art schools and related artist-in-residency programs to determine their potential interest in relocating to or expanding at the Shipyard. Based on these interviews, an opportunity exists to create a for-profit art school and for-profit/nonprofit artist-in-residency program at the Shipyard. Specifically, a local art school mentioned that the Shipyard represents a very desirable location because of its industrial, arts and culture, and housing components. In addition, an urban artist-in-residency program located at the Shipyard could positively impact the overall arts and culture component. According to a representative of a successful arts program based in Nebraska, a central component of their artist-in-residency program has been an arts educational outreach program targeted to residents of disenfranchised communities. This outreach program represents one of only four such projects in the country.

Conclusion

In sum, S&A included the dedication of approximately 460,000 square feet of education and training facilities and 95,000 square feet of cultural facilities in the Shipyard's 30-year development program. Based on the planning team's approach, these uses are programmed into the "cultural complex" located along the northeast waterfront and the "training center" located along the eastern waterfront as designated by the Plan.

In addition, S&A projects that 600 additional artist studios, or 300,000 square feet, could potentially be absorbed at the Shipyard during the 30-year build-out. This level of development would be relatively consistent with the 600 studios that have been developed in the eastern portion of San Francisco (i.e., South of Market to Bayview) in the past 30 years. The Plan promotes concentration of additional studios in the "mixed-use" area along the northern waterfront. The addition of 600 studios to the existing 300 studios at the Shipyard would more than likely make it the largest artist center in the country, potentially resulting in unique opportunities to attract regional and national tourism if other art-related activities are provided. As a result, S&A assumes that at least 12, 500 square feet of gallery space could be supportable at the Shipyard during the 30-year build-out.

As described above, S&A developed a prototype profile of cultural and educational facilities at the Shipyard based on the goal of stimulating a healthy balance between private self-sustaining enterprises and nonprofit or public institutions requiring public funding. The projected financial viability of the Plan will be determined by modeling these distributions of public, nonprofit and private entities in S&A's financial feasibility model. Hence, the model will include assumptions regarding utilizing a portion of the project's cash flow (if any is generated) to subsidize some of the cultural and educational uses. Studies by the San Francisco Arts Commission (*The Impact of the Non-Profit Arts on the Economy of San Francisco)*, and KPMG Peat Marwick (*The Arts: A Competitive Advantage for California*), provide useful data to justify potential subsidies as an essential operation cost of the Plan's implementation as a whole. Conclusions from the studies include the following:

- San Francisco's arts environment plays a positive role in attracting and retaining major employers.
- Non-profit arts organizations help revitalize particular economically declined neighborhoods. Their entry brings in customers, improves safety, enhances ambiance, and reveals renovation potential.
- Nonprofit arts organizations [in California] receive $254.4 million in grants and donations. As a return on this investment, arts organizations and audiences generate more than $2 billion of spending in California.

In addition, the educational services located at the Shipyard could potentially be packaged as a part of the financial incentive package to prospective Shipyard businesses by providing their individualized training and recruitment needs through on-site facilities.

RETAIL MARKET

Retail development is highly sensitive to location and access, since patrons are generally intercepted or drawn to convenient and central locations. The Shipyard's location, peripheral to San Francisco's population centers, preclude the site as a major destination retail center. However, limited "destination" retail opportunities exist for niche market retailers seeking synergies of the special on-site uses such as artist studios and educational activities. In addition, modest retail demand for neighborhood convenience retail (e.g., food stores, household supplies, office supplies, restaurants and cafes, etc.) will be driven by other land use activities at the Shipyard such as residential, commercial and cultural/ education uses.

The convenience retail demand presents excellent opportunities for local Bayview/Hunters Point residents to own and operate businesses within the Shipyard such as restaurants, business supply stores, food and convenience stores, etc. The level of retail projected at the Shipyard will most likely not compete with existing neighborhood-serving retail along the Third Street corridor.

Absorption Forecast Methodology

S&A's retail absorption forecast is based on an algorithm (embedded in Summary Table 1) that calculates retail demand based on other land uses. For example, the algorithm includes formulas to calculate the demand generated by employees and residents at the Shipyard. Based on prior studies, it can be assumed that each employee generates demand for approximately five square feet of retail space based on annual expenditures of approximately $1,000 per employee (for lunch, convenience goods, etc.) and retail outlets achieving gross sales of $200 per square foot. Similarly, S&A has determined that residents generate demand for approximately 60 square feet of convenience retail per household.

In addition to convenience retail, S&A projects that at least 10,000 square feet of destination-oriented retail could be attracted to the Shipyard every five years. For example, S&A test marketed the Shipyard as a site to one of the West Coast's major discount art supply and catalog outlets. The company expressed interest in locating a large flagship store at the Shipyard of approximately 10,000 square feet, if favorable economic terms could be provided, due to the concentration of artists and future cultural activities planned for the Shipyard. The company believes that its large base of Bay Area catalog patrons would travel to the Shipyard for direct access to its supplies. Similar arts-related retail could most likely be attracted to the Shipyard by implementing a well-conceived and targeted marketing program.

Conclusion

S&A concurs with the Draft Plan's designation of retail within the mixed-used area along the northern waterfront. As indicated in Table 1, approximately 212,700 square feet of retail development could potentially be captured at the Shipyard during the 30-year build-out, or approximately 30,000 to 50,000 square feet per phase.

SUMMARY

S&A projects that the Shipyard could capture approximately 4.1 million square feet of real estate development (including rehabilitation of existing buildings). The primary factors driving the realization of this level of development include competitive financial terms (i.e., land and lease rates) for prospective developers, a strategic marketing plan, an unencumbered development approvals process, and financial incentives to provide employment and business ownership opportunities to the local Bayview/Hunters Point community.

C:\WPDOCS\PROJECTS\09397\09397.R02

LIST OF TABLES

Table 1: Hunters Point Shipyard Build-Out and Land Utilization Potential (Square Feet), 1996-2025

Table 2: Hunters Point Shipyard Market Driven Employment Projections By Phase, 1996-2025

Table 3: Estimated Capture at Hunters Point Shipyard of Projected New Industrial Development, 1996-2025

Table 4: Industrial Employment Growth Rate Projections, San Francisco and North San Mateo County, 1990-2025

Table 5: Space Inventory - Industrial Buildings (Square Feet) San Francisco & North San Mateo County, 1985-1994

Table 6: Industrial Building Space, Raw Land Inventory, and Market Share: Hunters Point/Bayview, San Francisco, and North San Mateo County, 1995

Table 7: Hunters Point Shipyard Industrial Rent Potential, 1995

Table 8: Comparable Industrial Lease Transactions Mission Bay and South Bayshore, 1995

Table 9: Estimated Capture at the Hunters Point Shipyard of Projected New High-Technology R&D Development, 1996-2025

Table 10: Space Inventory - Research and Development (Square Feet) North San Mateo County, 1986-1994

Table 11: Comparable Residential Developments Currently Selling in Southeast Area of San Francisco, 1995

Table 12: Condominium Live/Work Projects, San Francisco, 1995

Table 13: Rental Live/Work Projects San Francisco/Oakland, 1995

Table 14: Estimated Demand For New Attached Housing Units Priced From $100,000 to $250,000, San Francisco, 1996-2025

LIST OF TABLES (Continued)

Table 15: Projected Household Population and Housing Units: South Bayshore, San Francisco, Bay Area, 1980-2025

Table 16: San Francisco Residential Building Permits, 1970-1994

Table 17: Hunters Point Shipyard Cultural Uses: Tenant Mix and Annual Participation Rates, 1996-2025

Table 18: Local Theater Comparables, San Francisco, 1995

Table 19: Artist Studio Space, San Francisco, 1995

Table 20: Comparable Studio Developments, San Francisco, 1995

Table 21: Co-Operative Art Galleries, 1995

Table 22: Hunters Point Shipyard Education/Training Uses: Tenant Mix and Annual Participation Rates, 1996-2025

Table 23: Non-Profit Education and Training Organizations, San Francisco, 1995

C:\WPDOCS\PROJECTS\09397\09397.R02

TABLE 1
HUNTERS POINT SHIPYARD BUILD-OUT AND LAND UTILIZATION POTENTIAL (SQUARE FEET)
1996-2025

Land Use	Existing 1995	Phase I 1996 - 2000	Phase II 2001 - 2005	Phase III 2006 - 2010	Phase IV 2011 - 2015	Phase V 2016 - 2020	Phase VI 2021 - 2025	Total 1996 - 2025	WK&A (a)	Draft Plan (b)
Industrial and R&D	**542,300**	**386,700**	**127,200**	**115,700**	**248,300**	**328,900**	**372,400**	**1,579,200**	**950,958**	**1,585,584 - 2,514,501**
Industrial (c)	542,300	386,700	127,200	50,500	164,200	240,600	279,500	1,248,700	566,343	816,750 - 1,381,250
R&D (d)	0	0	0	65,200	84,100	88,300	92,900	330,500	384,615	768,834 - 1,153,251
Residential (e)		**386,500**	**413,500**	**0**	**0**	**0**	**0**	**800,000**	**620,000**	**800,000**
Mixed Use	**158,080**	**116,000**	**261,800**	**190,900**	**192,500**	**193,400**	**193,900**	**1,148,500**	**588,235**	**1,065,042 - 2,130,084**
Artist Studios (Units) (f)	120,500	60,000	60,000	60,000	60,000	60,000	60,000	360,000		
Live/Work (g)	0	0	100,000	100,000	100,000	100,000	100,000	500,000		
Galleries	0	0	2,500	2,500	2,500	2,500	2,500	12,500		
Retail (h)	0	42,300	53,000	28,400	30,000	30,900	31,400	216,000		
R&D (d)	37,580	13,700	46,300	0	0	0	0	60,000		
Cultural/Institutional		**92,500**	**92,500**	**92,500**	**92,500**	**92,500**	**92,500**	**555,000**	**256,667**	**555,390 - 740,520**
Education/Training (i)		76,700	76,700	76,700	76,700	76,700	76,700	460,000		
Cultural (j)		15,800	15,800	15,800	15,800	15,800	15,800	95,000		
Total	**700,380**	**981,700**	**895,000**	**399,100**	**533,300**	**614,800**	**658,800**	**4,082,700**	**2,415,860**	**4,006,016 - 6,185,105**

Notes:
a. Build-out estimated for the period 1995 - 2015.
b. Build-out estimated for the period 1995 - 2025.
c. See Tables 2 through 4 for projection methodology. Industrial build-out includes 291,500 square feet in Phase 1 for MUNI.
d. See Tables 5 through 7 for projection methodology.
e. See Tables 8 through 10. Residential development potential is limited to the draft plan's 800 housing units. However, 500 additional live/work units are projected for the mixed-use area.
f. Projection is based on the absorption of 600 new artists' studios over the 30 -year period, averaging 500 square feet each, in addition to 180,500 square feet of existing studio space.
g. Projection is based on the absorption of 500 live/work units, averaging 1,000 square feet each.
h. Projection is based on demand generated for neighborhood convenience stores and restaurant/cafes by residents, workers, and visitors at the Shipyard, in addition to demand generated by the larger market area for specialty retailing (e.g., art supply stores, business supplies, etc.).
i. Projection based on survey of existing training centers and schools in San Francisco and the Bay Area.
j. The development of cultural facilities is not market-driven, but rather driven by public policy and available funding subsidies. The total cultural facilities space projection is calculated as the difference between the Draft Plan minimum total build-out potential for cultural/institutional uses and S&A's projected absorption of education/training facilities.

Source: Sedway & Associates
D:\28994\TABLES\SUMMARY.WK4

10:23 AM
25-May-95

TABLE 2
HUNTERS POINT SHIPYARD
MARKET DRIVEN EMPLOYMENT PROJECTIONS BY PHASE
1996 TO 2025
MAY 1995

Type	Phase 1 1996 - 2000	Phase 2 2001 - 2005	Phase 3 2006 - 2010	Phase 4 2011 - 2015	Phase 5 2016 - 2020	Phase 6 2021 - 2025	Phase Totals
Industrial	905	298	118	384	563	654	2,922
Research and Development	0	0	186	241	253	266	945
Education/Training	115	115	115	115	115	115	690
Cultural	24	24	24	24	24	24	143
Mixed Use	189	451	329	320	334	323	1,947
Residential	0	0	0	0	0	0	0
Open Space	0	0	0	0	0	0	0
Totals	1,233	887	773	1,084	1,288	1,381	6,647
Cumulative Totals	1,233	2,120	2,893	3,977	5,265	6,647	

Sources: City and County of San Francisco, The Planning Department; and Sedway & Associates.
D:\28994\JOBS4.WK4

25-May-95

TABLE 3
HUNTERS POINT SHIPYARD
ESTIMATED CAPTURE AT HUNTERS POINT SHIPYARD OF PROJECTED NEW INDUSTRIAL DEVELOPMENT (a)
SAN FRANCISCO AND NORTH SAN MATEO COUNTY
1996 - 2025

	1994 Base	1996 Est.	Phase I 1996 - 2000	Phase II 2001 - 2005	Phase III 2006 - 2010	Phase IV 2011 - 2015	Phase V 2016 - 2020	Phase VI 2021 - 2025
Industrial Growth Rate (b)		0.5%	6.0%	5.6%	3.2% (c)	4.9%	5.2%	5.5%
Total Industrial Inventory (end of phase)(d)	48,658,643	48,905,000	51,820,000	54,702,700	56,448,800	59,187,200	62,246,100	65,657,900
Occupied Space (end of phase) (e)	44,960,586	45,188,220	47,881,700	50,545,300	52,158,700	54,689,000	57,515,400	60,667,900
Net New Demand (f)			2,921,100	2,663,600	1,613,400	2,530,300	2,826,400	3,152,500
Less Portion of Vacant Stock (g)			(1,017,500)	(1,074,100)	(1,108,400)	(1,162,100)	(1,222,200)	(1,289,200)
Total Potential New Development			1,903,600	1,589,500	505,000	1,368,200	1,604,200	1,863,300
Estimated Hunters Point Shipyard Capture Rate of New Space Demand (h)			5.0%	8.0%	10.0%	12.0%	15.0%	15.0%
Total Potential Absorption			95,200	127,200	50,500	164,200	240,600	279,500
Cumulative Potential Absorption			95,200	222,400	272,900	437,100	677,700	957,200

Notes:
a. This analysis does not include existing vacant or occupied industrial space at the Hunters Point Shipyard.
b. Phase III's lower projected growth rate is a result of the ABAG projections model, which incorporate a ten-year regional business cycle.
c. The industrial growth rate is based on employment projections from Association of Bay Area Governments, "Projections 94" for San Francisco and North San Mateo County. Figures were adjusted to reflect the proportion of each economic sector's labor force that typically would occupy industrial space, as estimated by the Urban Land Institute's "Industrial Development Handbook."
d. See Table 3.
e. Occupied space is based on the current market area vacancy rate of 7.6% for industrial space. This vacancy rate is held constant. (See Table 3)
f. Net New Demand is the difference between occppied space at the end of the current phase and occupied space at the end of the previous phase.
g. S&A assumes that for each five-year interval, one quarter of the vacant stock in the market area will be absorbed by the new demand for industrial space. At year end 1994, approximately 3.7 million square feet of San Francisco and North San Mateo County industrial space was vacant. (see Table 3)
h. The estimated capture rates are based on Bayview/Hunters Point's historical and current share of San Francisco and North San Mateo County industrial building and vacant zoned land inventory (see Table 4) adjusted for the subject site's access, infrastructure, environment and other conditions, and assuming rental rates are slightly lower than market area rates. S&A assumesHunters Point Shipyard capture rate increases as these market factors improve.

Sources: Association of Bay Area Governments (ABAG), "Projections '94"; Grubb & Ellis; CB Commercial; and Sedway & Associates.
D:\28994\TABLES\IND_MKT.WK4

02:34 PM
23-May-95

TABLE 4
HUNTERS POINT SHIPYARD
INDUSTRIAL EMPLOYMENT GROWTH RATE PROJECTIONS
SAN FRANCISCO AND NORTH SAN MATEO COUNTY
1990 - 2025

Industry	Percent of New Jobs In Industrial Space	1990	1995	2000	2005	2010	2015	2020	2025
Employment Projections									
Agriculture/Mining		2,720	2,550	2,590	2,560	2,490	2,441	2,394	2,347
Construction		24,464	23,726	27,323	29,493	27,048	26,919	26,798	26,683
Manufacturing		51,988	53,667	55,739	54,356	54,392	53,811	53,293	52,838
Transp., Comm., Utilities		49,696	51,860	53,130	56,394	55,800	57,185	58,604	60,059
Wholesale Trade		40,902	37,243	36,611	39,914	38,619	39,670	40,754	41,873
Retail Trade		98,910	95,070	98,760	100,880	105,340	108,798	112,373	116,069
F.I.R.E.		84,513	76,306	76,708	79,004	83,073	86,454	89,976	93,644
Services		245,900	250,270	278,740	313,550	341,670	378,370	419,078	464,235
Government		67,626	61,598	64,240	67,570	66,860	68,210	69,587	70,992
Total Jobs		666,720	652,290	693,840	743,720	775,290	821,859	872,857	928,739
Employment Requiring Industrial Space									
Agriculture/Mining	5%	136	128	130	128	125	122	120	117
Construction	5%	1,223	1,186	1,366	1,475	1,352	1,346	1,340	1,334
Manufacturing	100%	51,988	53,667	55,739	54,356	54,392	53,811	53,293	52,838
Transp., Comm., Utilities	30%	14,909	15,558	15,939	16,918	16,740	17,155	17,581	18,018
Wholesale Trade	40%	16,361	14,897	14,645	15,966	15,447	15,868	16,302	16,749
Retail Trade	0%	0	0	0	0	0	0	0	0
F.I.R.E.	0%	0	0	0	0	0	0	0	0
Services	20%	49,180	50,054	55,748	62,710	68,334	75,674	83,816	92,847
Government	0%	0	0	0	0	0	0	0	0
Total Jobs		133,797	135,490	143,566	151,552	156,390	163,977	172,451	181,903
Industrial Employment Growth Rate			1.3%	6.0%	5.6%	3.2%	4.9%	5.2%	5.5%

Sources: Association of Bay Area Governments (ABAG), "Projections '94"; and Sedway & Associates.
D:\28994\TABLES\IND_MKT.WK4

02:34 PM
23-May-95

TABLE 5
HUNTERS POINT SHIPYARD
SPACE INVENTORY - INDUSTRIAL BUILDINGS (SQUARE FEET)
SAN FRANCISCO & NORTH SAN MATEO COUNTY (a)

	1985	1990	1991	1992	1993	1994	Five-Year Total/ Annual Average Compound Growth Rate (%)
Industrial Inventory	47,290,065	48,517,742	48,732,545	48,732,545	48,732,545	48,658,643	0.1%
San Francisco	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000	27,500,000	0.0%
North San Mateo County	19,790,065	21,017,742	21,232,545	21,232,545	21,232,545	21,158,643	0.2%
Annual Construction	---	306,919 (b)	214,803	0	0	(73,902)	447,820
San Francisco	---	0 (b)	0	0	0	0	0
North San Mateo County	---	306,919 (b)	214,803	0	0	(73,902)	447,820
Square Feet Occupied	43,271,440	44,338,925	43,926,556	44,362,789	44,962,483	44,952,214	0.3%
San Francisco	25,025,000	25,025,000	24,750,000	24,750,000	25,231,250	25,162,500	0.1%
North San Mateo County	18,246,440	19,313,925	19,176,556	19,612,789	19,731,233	19,789,714	0.6%
Square Feet Vacant	4,018,625	4,178,817	4,805,989	4,369,756	3,770,062	3,706,429	---
San Francisco	2,475,000	2,475,000	2,750,000	2,750,000	2,268,750	2,337,500	---
North San Mateo County	1,543,625	1,703,817	2,055,989	1,619,756	1,501,312	1,368,929	---
Vacancy Rate	8.5%	8.6%	9.9%	9.0%	7.7%	7.6%	---
San Francisco	9.0%	9.0%	10.0%	10.0%	8.3%	8.5%	---
North San Mateo County	7.8%	8.1%	9.7%	7.6%	7.1%	6.5%	---
Annual Net Absorption	---	213,497	(412,369)	436,233	599,694	(10,269)	826,786
San Francisco	---	0	(275,000)	0	481,250	(68,750)	137,500
North San Mateo County	---	213,497	(137,369)	436,233	118,444	58,481	689,286
Typical Rate For Leases							
High Tech/R&D	---	$7.80 to $13.80	$7.80 to $12.60	$7.80 to $12.60	$7.80 to $13.20	$7.80 to $13.20	---
General Manufacturing/Warehouse	---	$3.60 to $7.20	$2.88 to $8.64	$2.88 to $9.00	$3.00 to $7.44	$3.36 to $7.80	---
Typical Price for Land in Industrial Parks (per Sq.Ft. of Land))							
San Francisco	---	---	---	---	---	$25.00 to $30.00	---
North San Mateo County	---	---	---	---	---	$15.00 to $20.00	---

Notes:
a. North San Mateo County includes Daly City, Brisbane, South San Francisco, & San Bruno.
b. 1990 construction figures represent the annual average change in industrial inventory from 1985 to 1990.

Sources: San Mateo County Economic Development Association (SAMCEDA); Grubb & Ellis; CB Commercial; California Employment Development Dept.; and Sedway & Associates.

D:\28994\TABLES\IND_MARK.WK4

02:36 PM
23-May-95

TABLE 6
INDUSTRIAL BUILDING SPACE, RAW LAND INVENTORY, AND MARKET SHARE
HUNTERS POINT/BAYVIEW, SAN FRANCISCO, AND NORTH SAN MATEO COUNTY
1995

	Hunters Point/ Bayview (a)	San Francisco	North San Mateo County	Total Market Area	Bayview Share of Total Market
Industrial Space (b)					
Building Sq. Ft.	4,409,537	27,500,000	21,158,643	48,658,643	9.1%
Vacant Sq. Ft.	263,815	2,337,500	1,368,929	3,706,429	7.1%
Occupied Building Sq. Ft.	4,145,722	25,162,500	19,789,714	44,952,214	9.2%
Industrial Land (c)					
Total Zoned Acres	1,629	3,522	2,418	5,940	27.4%
Vacant Acres	385	850	550	1,400	27.5%

Notes:

a. Hunters Point/Bayview does not include existing Hunters Point Shipyard building and land area.
b. Industrial building area and vacant space for the Hunters Point Bayview area derived from Blickman Turkus data. San Francisco data compiled by S&A from Grubb & Ellis and CB Commercial. North San Mateo County data compiled by San Mateo County Economic Development Association, Inc. (SAMCEDA)
c. Industrial zoned land and vacant area based on ABAG and San Francisco Planning Department documents.

Sources: Grubb & Ellis; CB Commercial; SAMCEDA, San Francisco Planning Department; and Sedway & Associates.
D:\28994\TABLES\TABLE_5.WK4

02:39 PM
23-May-95

TABLE 7
SUMMARY RENTAL RATES
HUNTERS POINT SHIPYARD INDUSTRIAL RENT POTENTIAL
MAY 1995

Type	Square Footage	Mission Bay/South Bayshore Market Average Rental Rate	Hunters Point Shipyard Existing Average Rental Rate	Estimated Hunters Point Shipyard Market Average Rental Rate
Small Space	1 - 2,500	$0.75	$0.45	$0.45
Diminutive Industrial	2,501 - 25,000	$0.36	$0.16	$0.25
Bulk Industrial	25,001 - 99,999	$0.35	$0.15	$0.20
Big Bulk Industrial	100,000 -	N/A	$0.07	$0.15

Notes:
Rental rates are per rentable square foot per month. Market rental rates for Hunters Point Shipyard assumes that the buildings are in reasonble condition as compared to competitive buildings.
Tenant improvements for the space at Hunters Point is assumed to be minimal with standard leasing commissions.

Source: Sedway & Associates.
D:\28994\TBLSUM1.WK4

03:43 PM
25-May-95

TABLE 8
COMPARABLE INDUSTRIAL LEASE TRANSACTIONS
MISSION BAY AND SOUTH BAYSHORE
MAY 1995
PAGE 1 OF 2

Comp Num.	Project/ Location/ Owner	Tenant Name	Industry/ Use	Face Rate $/SF/MO	NNN or Gross	Building Type	Year Built	Net Rentable Project Size Sq. Ft.	Square Feet Leased	Lease Effective Date	Lease Term	New or Renew	Rental Steps When	Rental Steps Amount	# of Mos. Free Rent
1	Mission Bay 1050 Third Street Catellus Development Corp.	N/A	Entertainment/ Roller Hockey Rink	$0.330	Industrial Gross	N/A	1958	27,000	27,000	01-Jan-95	3 years	New	mo. 13 mo. 15 mo. 25	$0.010 $0.033 $0.014	2
2	Mission Bay 1780 Third Street Catellus Development Corp.	N/A	Storage	$0.400	Industrial Gross	N/A	~1960's	5,400	5,400	01-Apr-95	3 months	New/ Relocation	N/A	N/A	0
3	Mission Bay 299 Illinois Street Catellus Development Corp.	N/A	Newspaper Circulation	$0.345	Industrial Gross	N/A	~1960's	152,888	22,000	01-Jun-94	3 years	New	mo. 13 mo. 25	$0.015 $0.015	1
4	Mission Bay 299 Illinois Street Catellus Development Corp.	N/A	Newspaper Circulation	$0.345	Industrial Gross	N/A	~1960's	152,888	16,000	01-Mar-95	25 months	New/ Expansion	mo. 13 mo. 25	$0.015 $0.015	0
5	Mission Bay 770 Mariposa Catellus Development Corp.	N/A	Warehouse	$0.390	Industrial Gross	N/A	~1960's	65,880	23,000	01-Aug-94	3 years	New	mo. 13 mo. 25	$0.010 $0.010	0
6	N/A 3150 Third Street Martin Gawilel	Knitware	Warehouse	$0.380	Industrial Gross	N/A	N/A	N/A	15,000	Jul-94	5 years	N/A	Annual	CPI	N/A
7	N/A 2025-2045 McKinnon Ave. Ronal & Pamela Thompson	Tilia	Warehouse	$0.380	Industrial Gross	N/A	N/A	N/A	25,521	Jul-94	3 years	N/A	N/A	N/A	N/A
8	N/A 180-200 Napoleon Street San Francisco Warehouse Company	Start to Finish Bicycles	Warehouse	$0.380	Industrial Gross	N/A	N/A	N/A	25,000	May-94	5 years	N/A	N/A	N/A	N/A
9	N/A 208 Pennsylvania 208 Electro Rep	Fergazi Paints	Warehouse	$0.310 Effective	Industrial Gross	N/A	N/A	N/A	23,500	May-94	4 years	N/A	N/A	N/A	N/A

Sources: Catellus Development Corporation; & Sedway & Associates.
D:\28994\TIBCHP1.WK4

07:56 PM
24-May-95

TABLE 8
COMPARABLE INDUSTRIAL LEASE TRANSACTIONS
MISSION BAY AND SOUTH BAYSHORE
MAY 1995
PAGE 2 OF 2

Comp Num.	Project/ Location/ Owner	Tenant Name	Industry/ Use	Face Rate $/SF/MO	NNN or Gross	Building Type	Year Built	Net Rentable Project Size Sq. Ft.	Square Feet Leased	Lease Effective Date	Lease Term	New or Renew	Rental Steps When	Rental Steps Amount	# of Mos. Free Rent
10	N/A 780 Toland Street Meyer & Meyer	United Industrial Supply	N/A	$0.300	Industrial Gross	Concrete tilt-up	N/A	N/A	14,800	Nov-93	5 years	N/A	mo. 13 mo. 25 mo. 37 mo. 49	$0.07 CPI CPI CPI	3
11	N/A 701 16th Street City Electric Supply	Industrial Passenger Service	N/A	$0.400 Effective	Industrial Gross	N/A	N/A	N/A	10,000	Sep-93	3 years	N/A	N/A	N/A	N/A
12	N/A 1445 Yosemite Avenue Joseph Zimmerman	Progressive Trust	Warehouse	$0.310	Industrial Gross	N/A	N/A	N/A	5,000	Jan-94	5 years	N/A	N/A	N/A	2
13	N/A 5700 Third Street Lincoln Bayview	Downtown Rehearsal	N/A	$0.280	Industrial Gross	N/A	N/A	N/A	18,252	May-93	5 years	N/A	Annual	4.00%	0
14	N/A 45 Williams	N/A	N/A	$0.250	Industrial Gross	Wood Frame	N/A	25,000	25,000	N/A	N/A	N/A	N/A	N/A	N/A
15	N/A 1650 Evans	N/A	N/A	$0.330	Industrial Gross	Metal	N/A	18,000	18,000	N/A	N/A	N/A	N/A	N/A	N/A
16	N/A 1500 Davidson	N/A	N/A	$0.300	Industrial Gross	Concrete	N/A	10,000	10,000	N/A	N/A	N/A	N/A	N/A	N/A
17	N/A 2040 Oakdale	N/A	N/A	$0.400	Industrial Gross	Concrete	N/A	20,000	20,000	N/A	N/A	N/A	N/A	N/A	N/A
18	N/A 3003-95 Third Street	N/A	N/A	$0.300	Industrial Gross	Concrete	N/A	25,000	25,000	N/A	N/A	N/A	N/A	N/A	N/A
19	N/A 3003-95 Third Street	N/A	N/A	$0.370	Industrial Gross	Concrete	N/A	21,000	21,000	N/A	N/A	N/A	N/A	N/A	N/A
20	N/A 1225 Minnesota	N/A	N/A	$0.500	Industrial Gross	Concrete	N/A	20,000	20,000	N/A	N/A	N/A	N/A	N/A	N/A
21	N/A 695 Minnesota	N/A	N/A	$0.450	Industrial Gross	Concrete	N/A	25,000	25,000	N/A	N/A	N/A	N/A	N/A	N/A

Sources: Catellus Development Corporation; & Sedway & Associates.
D:\28994\TIBCHP1.WK4

11:22 AM
12-Jun-95

TABLE 9
HUNTERS POINT SHIPYARD
ESTIMATED CAPTURE AT THE HUNTERS POINT SHIPYARD OF PROJECTED NEW HIGH-TECHNOLOGY R&D DEVELOPMENT (a)

	Phase I 1996 - 2000	Phase II 2001 - 2005	Phase III 2006 - 2010	Phase IV 2011 - 2015	Phase V 2016 - 2020	Phase VI 2021 - 2025
San Francisco R&D Job Growth	380	480	470	540	588	640
North San Mateo R&D Job Growth	450	450	510	470	470	470
New R&D Jobs in Market Area	830	930	980	1,010	1,058	1,110
Estimated Square Feet per Employee (b)	350	350	350	350	350	350
Gross Demand For R&D	**290,500**	**325,500**	**343,000**	**353,500**	**370,300**	**388,500**
Less Portion of Vacant Stock (c)	(17,100)	(17,100)	(17,100)	(17,100)	(17,100)	(17,100)
Total Potential New Development	273,400	308,400	325,900	336,400	353,200	371,400
Estimated Hunters Point Shipyard Capture Rate (d)	5%	15%	20%	25%	25%	25%
Total Potential Absorption	**13,700**	**46,300**	**65,200**	**84,100**	**88,300**	**92,900**
Cumulative Potential Absorption	13,700	60,000	125,200	209,300	297,600	390,500

Notes:

a. This analysis does not include existing vacant or occupied industrial space at the Hunters Point Shipyard.
b. From Association of Bay Area Governments "1987 Input-Output Model and Economic Multipliers" for the San Francisco Bay Area.
c. S&A assumes that for each five-year interval, one quarter of the vacant stock in the market area will be absorbed by the new demand for industrial space. 68,257 square feet of North San Mateo County R&D space was vacant. (see Table 6) Existing San Francisco R&D space is considered to minimal to affect this analysis.
d. The low initial capture rates are based on San Francisco's poor historical performance in capturing new R&D development.

Sources: Association of Bay Area Governments (ABAG), "Projections '94"; Grubb & Ellis; CB Commercial; and Sedway & Associates.
D:\28994\TABLES\IND_MKT.WK4

02:34 PM
23-May-95

TABLE 10
HUNTERS POINT SHIPYARD
SPACE INVENTORY - RESEARCH AND DEVELOPMENT (SQUARE FEET)
NORTH SAN MATEO COUNTY (a)

	1986	1990	1991	1992	1993	1994	Five-Year Total/ Annual Average Compound Growth Rate (%)
R&D Inventory	112,832	877,636	869,041	869,041	869,041	929,537	1.4%
Annual Construction	---	191,201 (b)	(8,595)	0	0	60,496	243,102
Square Feet Occupied	53,347	578,172	793,030	816,323	758,128	861,280	10.5%
Square Feet Vacant	59,485	299,464	76,011	52,718	110,913	68,257	---
Vacancy Rate	52.7%	34.1%	8.7%	6.1%	12.8%	7.3%	---
Annual Net Absorption	---	131,206	214,858	23,293	(58,195)	103,152	414,314
Typical Rate For Leases							
High Tech/R&D	---	$9.00 to $13.80	$10.20 to $12.60	$11.40 to $12.60	$9.60 to $13.20	$9.60 to $13.20	---
General Manufacturing/Warehouse	---	$3.96 to $6.60	$2.88 to $8.64	$2.88 to $9.00	$4.20 to $7.44	$4.20 to $7.80	---
Typical Price for Land in Industrial Parks (per Sq.Ft. of Land))							
San Francisco	---	---	---	---	---	$25.00 - $30.00	---
North San Mateo County	---	---	---	---	---	$15.00 - $20.00	---

Notes:
a. North San Mateo County includes Daly City, Brisbane, South San Francisco, & San Bruno. San Francisco R&D space inventory is not available.
b. 1990 construction figure represents the annualized change in industrial inventory from 1985 to 1990.

Sources: San Mateo County Economic Development Association (SAMCEDA); Grubb & Ellis; CB Commercial; California Employment Development Dept.; and Sedway & Associates.

D:\28994\TABLES\IND_MARK.WK4 01:36 PM 12-Jun-95

TABLE 11
COMPARABLE RESIDENTIAL DEVELOPMENTS CURRENTLY SELLING IN SOUTHEAST AREA OF SAN FRANCISCO
MARCH 1995

Project/ Location/ Developer	Type	Market/ Affordable	Total Units Built	Total Units Planned	Unit Type (Br/Ba)	Unit Size (Sq.Ft.)	Sales Price Range	Price Per Sq.Ft.	Opening Date		Units Closed Since Opening	Date Last Unit Sold	Mothly Absorption Since Opening	Notes
Hillside Village Hudson & Keith	Single Fam. Single Fam.	Mkt Aff	25 37 62	25 37 62	2/2 2/2	1,100 - 1,100 1,100 - 1,100	$179,500 - $179,500 $102,000 - $153,000	$163 - $163 $93 - $139	May 1991		24 35 59	Not all sold	1.0 1.5 2.6	
City View Whitney Young & Hudson	Single Fam. Single Fam.	Mkt Aff	2 13 15	2 13 15	3/2 3/2	1,500 - 1,500 1,500 - 1,500	$200,000 $210,000 $102,000 $153,000	$133 - $140 $68 - $102	October 1990		2 13 15	October 1992	0.1 0.5 0.6	
Candle Stick View Ingles & Kiska	Duplex Attached	Aff Aff	0 0 0	16 22 38	2/1.5 3/2	1,100 - 1,100 1,300 - 1,300	$106,000 $124,000 $120,000 $141,000	$96 - $113 $92 - $108	August 1995		Not yet opened	Not yet opened	Not yet opened	Targeting 70%-80% MHI Response has been good. Public housing across the street needs renovation.
Morgan Heights Earl & Jerrold	Attached Attached	Aff Aff	36 27 63	36 27 63	2/2 2/2	1,156 - 1,156 1,172 - 1,317	$104,000 - $108,000 $108,000 - $110,000	$90 - $93 $84 - $92	1989		36 27 63	1990	3.0 2.3 5.3	Resold 5 in 6 years for assessed market value of approx. $165,000.
Stoneridge Stoneridge Lane @ 1750 Geneva Ave. L.L. & V. Associates 337-8800	Attached Attached	Mkt Mkt	36 0 36	82 12 94	2/2 3/2	1,068 - 1,132 1,588 - 1,588	$139,000 - $190,950	$120 - $130	April 1994 Sept. 1994 June 1995 Late 1995 1996 1996	Phase 1 (built) Phase 2 (built) Phase 3 (u.const.) Phase 4 (planned) Phase 5 (planned) Phase 6 (planned)	Sold 20 16 taking reservation 0 0 0 36	Available 20 16 12 16 12 18 94	1.7 1.3 0.0 0.0 0.0 0.0 3.0	
Innes Ave. Homes 1400 Block of Innes	Single Fam.	Aff		16 total	3/2 4/2	1,300 - 1,300 1,300 - 1,300	$132,000 $132,000 $138,000 $138,000	$102 - $102 $106 - $106	May 1989		16	May 1989	16	All units sold immediately through a lottery. Had a wait list.
Las Villas @ LaSalle & Newcombe	Single Fam.	Aff Mkt	0 0 0	24 3 27	3/2.5 3/2.5	(prices yet to be determined)			May 1995		Not yet opened	Not yet opened	Not yet opened	The SFRA has ten buyers lined up so far, assuming pricing consistent with previous SFRA projects.

Sources: San Francisco Redevelopment Agency; San Francisco City Planning Department; and Sedway & Associates.
D:\28994\TABLES\RSD_COMP.WK4

01:35 PM
12-Jun-95

TABLE 12
CONDOMINIUM LIVE/WORK PROJECTS
SAN FRANCISCO
MAY 1995
PAGE 1 OF 2

Type/ Project/ Address Developer	Number of Units/ Zoning	Year Built/ Renovated	Units Sold	Units Sold (%)	Building (Sq. Ft.)	Number of Stories	Unit Size Range (Sq. Ft.)	Unit Size Average (Sq. Ft.)	Purchase Price/ (Per Sq. Ft.)	Condominium Fees	Sales Price	Construction Type
Renovation												
The Lofts at 601 Fourth Street 601 Fourth Street 601 Fourth Street Associates	85 SSO, Service/ Secondary Office	1916/ 1989	Sold out in 3 months	100.00%	151,163 gross	3	953 - 2,213	1,400	$160 - $200	From $165 per month	$170,000 - $495,000	Concrete block
York Street Studios 600 York Street/2711 18th Street York Street Live/Work L.P.	25 M-1, Arts Activity Use Restriction	1921/ 1991	11	44.00%	30,000 gross	3	600 - 1,275	920	$200	Estimated at $150 - $190 per unit	$135,000 - $275,000	Reinforced concrete
Potrero Square 701 Minnesota	50	1993	50	100.00%	63,750 gross		780 - 1,840	1,275	$227 - $201	$130 - $210	N/A	N/A
The Lofts at 355 Bryant Street 355 Bryant Street 355 Bryant Street Associates	44 SSO, Service/ Secondary Office	1921/ 1989	44	100.00%	83,222 gross	4	1,200-2,100	1,600	$170 - $215	N/A	$210,000 - $450,000	Brick and timber
The Clocktower Building (a) 461 - 467 2nd Street Clocktower Associates	127 SSO, Service/ Secondary Office	1907/ tower 1919 1991	127	100.00%	209,149 gross	6	450 - 1,900	~1,175	$222 - $275	N/A	$100,000 - $415,000	Brick and timber
701 Minnesota Street Mission Land Company and 701 Minnesota	4 M-2, Arts Activity Use Restriction	1907/ 1992	N/A	N/A	62,000 net	2	736 - 1,040	888	N/A	N/A	N/A	Type 5 Masonry
New Construction												
18th & Arkansas Lofts-Phase 1 (b) 1615 18th Street	18 Affordable Units M-1 30 Market Rate Units	1994	N/A	N/A	~10,800 net	N/A	500 - 700	~600	N/A	N/A	$70,000 $125,000/ $140,000 $305,000	Wood frame
485/487 Tehama Street Gerry Dean/Gerry Gallagher	4 RSD	1991	N/A	N/A	4,600 gross 4,200 net	3	N/A	1,050	N/A	N/A	N/A	Wood frame
Total/Average (c)	357							1,243				

Notes:
(a) Excluding the penthouse square footage.
(b) Partnership between Artspace Development Corporation and McKenzie, Rose, & Holliday.
(c) Total/Average calculation does not include 30 market rate units at 18th & Arkansas Lofts - Phase I.

Sources: "San Francisco Live/Work: A Market Survey," Arthouse, a joint project of California Lawyers for the Arts and the San Francisco Arts Commission; Sedway & Associates.
D:\28994\LWORKC3.WK4

12-Jun-95
11:30 AM

TABLE 12
CONDOMINIUM LIVE/WORK PROJECTS
SAN FRANCISCO
MAY 1995

Type/ Project/ Address Developer	Amenities: Ceiling Height	Amenities: Roll-Up Door	Amenities: Floor Covering	Amenities: Full Kitchen Bathrooms	Amenities: Common Space	Comments:
Renovation						
The Lofts at 601 Fourth Street 601 Fourth Street 601 Fourth Street Associates	14' - 16'	No	Industrial grade base carpet	All units, two sinks in bathrooms	Roof deck, conference room available for rental, front lobby	Parking: one space per unit in secure garage, storage available
York Street Studios 600 York Street/2711 18th Street York Street Live/Work L.P.	11', 10', 12'	Freight elevator	Concrete	All units; no refrigerator	Laundry facilities, roof deck	No parking on site Condominium fees includes heat and hot water
Potrero Square 701 Minnesota	N/A	N/A	N/A	N/A	N/A	
The Lofts at 355 Bryant Street 355 Bryant Street 355 Bryant Street Associates	13' - 18'	No	Industrial grade base carpet	All units, two sinks in bathrooms	Roof deck, entry courtyard, lobby	Parking: one space per unit in adjacent parking lot
The Clocktower Building (a) 461 - 467 2nd Street Clocktower Associates	13' - 17'	No	Industrial grade base carpet	All units	Interior light court patios, lobby, garage parking-one per unit	Three interconnected brick and timber buildings.
701 Minnesota Street Mission Land Company and 701 Minnesota	~20'	All units	Concrete	All units	Court yard areas: 2,500 square feet for each unit	Mezzanine space Parking: one space per unit in a secure garage
New Construction						
18th & Arkansas Lofts-Phase 1 (b) 1615 18th Street	14'	Freight elevator	Concrete	All units	Shared production, meeting, exhibition, performance space	On site underground parking; 18 subsidized conds are part of 29 unit phase
485/487 Tehama Street Gerry Dean/Gerry Gallagher	16'	Yes	Commercial carpet	All units	250 square foot backyard deck, parking area in basement	Zoning: Residential/Service Mixed Use District, 40' height limit; 2,000 sq. ft.

Notes:
(a) Excluding the penthouse space.
(b) Partnership between Artspace Development Corporation and McKenzie, Rose, & Holliday.
(c) Total/Average calculation does not include 30 market rate units at 18th & Arkansas Lofts - Phase I.

Sources: "San Francisco Live/Work: A Market Survey," Arthouse, a joint project of California Lawyers for the Arts and the San Francisco Arts Commission; Sedway & Associates.
D:\28994\LWORKC3.WK4

12-Jun-95
11:30 AM

TABLE 13
RENTAL LIVE/WORK PROJECTS
SAN FRANCISCO/OAKLAND
MAY 1995
PAGE 1 OF 4

Type/ Project/ Address Developer/City	Number of Units/ Zoning	Year Built/ Renovated	Occupancy Rate (%)	Building (Sq. Ft.)	Number of Stories	Unit Size Range (Sq. Ft.)	Unit Size Average (Sq. Ft.)	Average Rent (Per Sq. Ft.)	Tenant Expenses	Tenant Improvement Allowance	Lease Term	Construction Type
Renovation												
Developing Environments (1) 540 Alabama at 18th St. Developing Envrionments, Inc./SF	39 M-1, 50' height limit Residential Hotel with variances	1920's/ 1976- 1979	100.00%	33,790 net, top two floors	3	474 - 2,188	1,000	$0.39	$73.00 per month, per person charge	Negotiable, as long as up to code	Month to Month	Reinforced Concrete
Sears Building 3435 Army Street Berline & Associates/SF	57 NC-3, Neighborhood Commercial	1920's/ 1978	100.00%	120,000 - gross entire building 68,000 - gross: live/work	3	520 - 1,800	1,000	$0.75	Electricity (seperate meters per unit)	None	1 year, typically	Reinforced Concrete; Brick facade
N/A (1) 731 Florida Street Sunset West Properties/SF	9 M-1, Arts Activity Use Restriction	1902/ 1986	89.00%	15,357 gross; 10,000 net	2	700 - 1,200	1,000	$0.78 - $1.00	Gas, electric	None	Ranges from mo-to-mo to five years	Front: wood Rear: brick
N/A 530 Hampshire Street David Allen Trust/SF	11 M-1, Arts Activity Use Restriction	1930's/ 1991	100.00%	Net; 44,000 24,000 live/ work	4	1,150 - 3,000	~2,000	$0.76 - $0.98	Seperate meters for gas and electric, percentage of garbage and water	None, fully improved	Negotiable from 1 to 5 years	Steel I-Beam with concrete fill for fire protection
N/A 1049 Market Street Rifkin Realty/SF	6 C-3G (Commercial, Downtown Office General)	1907/ 1991	77.00%	56,800 entire building	6	700 - 1,600	1,100	$0.95 - $1.05	Electricity, pro rata share of CAM charges	Negotiable	Negotiable long term commerical	Type 3 Sprinklered, masonry with lumber
Minnesota Lofts (1) 601 Minnesota Street Roxane Mankin Co./SF	19 M-2, 50' height limit	1929/ 1988	100.00%	43,668 entire building	2	900 - 1,000	1,100	$1.00 Starting rent	Unit cleaning, elec., gas, pro-rated share of bldg. taxes, insur., CAM charges	None	Month to month due to condominium converson	Corrugated metal and wood pillars
Nibbi Lofts 801 Minnesota Street Nibbi Investments/SF	22 M-2, 50' height limit	1960 - 1970/ 1989	100.00%	18,700	1	850	850	$1.17	Gas, electric	None	1 - 2 years	Metal frame
New Construction												
30 Washburn Street/15 Grace Street Dick Fiore & Company/SF	4 SLR, Service/Light Ind./Residential	1991	N/A	5,500 live/work	3 including garage	1,200-1,500	~1,350	$0.92/$0.87	Gas, electric, garbage, water	None	3 years	Metal frame, wood and stucco
SF: Total/Average	167						950	$0.88				

Notes:
(1) Information per 1991 Survey.
SF= San Francisco; OAK = Oakland.

Sources: "San Francisco Live/Work: A Market Survey," a joint project of California Lawyers for the Arts and the San Francisco Arts Commission; Sedway & Associates.
D:\28994\LWORKR7.WK4

24-May-95
08:02 PM

TABLE 13
RENTAL LIVE/WORK PROJECTS
SAN FRANCISCO/OAKLAND
MAY 1995

Type/ Project/ Address Developer/City	Amenities: Ceiling Height	Amenities: Roll-Up Door	Amenities: Floor Covering	Amenities: Full Kitchen Bathrooms	Amenities: Common Space	Buyer/Tenant Profile: Area: Live/ Work	Comments:
Renovation							
Developing Environments (1) 540 Alabama at 18th St. Developing Envrionments, Inc./SF	11 1/2 - 13'	Commercial level	Concrete	Some units: full kitchens, communal bathrooms	Exhibition/open space on second floor, common use studio space, laundry areas, bathrooms	N/A	First story commercial, 2 upper stories are live/work
Sears Building 3435 Army Street Berline & Associates/SF	14'	Loading dock	Concrete, carpet or wood	Yes, all units	Roof deck	N/A	2 upper stories are live/work Approved under Section 204.4(b)
N/A (1) 731 Florida Street Sunset West Properties/SF	12' in most units	Yes	Lower: concrete, Top: wood	All units	None	N/A	Approved under Section 204.4(b)
N/A 530 Hampshire Street David Allen Trust/SF	Third floor: 12 1/2' Fourth floor: 14'	Lower floor	3rd: Concrete and RDX; 4th: synthetic concrete	All units	Roof deck, balconies	N/A	2 upper stories are live/work Secured garage parking spaces at $75 per month
N/A 1049 Market Street Rifkin Realty/SF	6th floor: 12'	No	Varnished oriented strand board	All units	Ground floor lobby area	N/A	Sixth story is live/work Zoning: Arts Activity Use Restriction
Minnesota Lofts (1) 601 Minnesota Street Roxane Mankin Co./SF	17' - 21' 18' average	No	Ground: concrete; 2nd: wood	All live/work units. Some work-only units have kitchens	Roof deck	N/A	12 work-only units Mezzanine level Approved under Section 204.4(b)
Nibbi Lofts 801 Minnesota Street Nibbi Investments/SF	16' - 26'	No	Vinyl tile over concrete; carpet over wood	All units	Laundry	N/A	Restriction. Track lights, garabage disposal, and forced air heaters. Parking spaces rent for $50 per mo.
New Construction							
30 Washburn Street/15 Grace Street Dick Fiore & Company/SF	12' - 23'	Yes, 11'	Carpet	All units	Stairways	N/A	Garage parking on site All units have galley kitchen, fireplaces

Notes:
(1) Information per 1991 Survey.
SF= San Francisco; OAK = Oakland.

Sources: "San Francisco Live/Work: A Market Survey," a joint project of California Lawyers for the Arts and the San Francisco Arts Commission; Sedway

D:\28994\LWORKR4.WK4

24-May-95
02:48 PM

TABLE 13
RENTAL LIVE/WORK PROJECTS
SAN FRANCISCO/OAKLAND
MAY 1995

Type/ Project/ Address Developer/City	Number of Units/ Zoning	Year Built/ Renovated	Occupancy Rate (%)	Building (Sq. Ft.)	Number of Stories	Unit Size Range (Sq. Ft.)	Unit Size Average (Sq. Ft.)	Average Rent (Per Sq. Ft.)	Tenant Expenses	Tenant Improvement Allowance	Lease Term	Construction Type
Renovation												
West Coast Macaroni Building 1250 57th Avenue N/A Oakland/ 9	12	1930/ 1973	100.00%	~17,000	2	1,300-1,500	1,400	\$0.45 - \$0.50 varies depending on location	Seperate billing for utilities	None	Month to Month	N/A
2934 Ford Street Oakland/ 10	50	N/A/ 1988	96.00%	~70,000	3	700 - 2,400	1,400	\$0.50 - \$0.55	Varies: bill back for water, garbage, CAM fee	None	1 year	Reinforced concrete
Exchange Studios 527 23rd Avenue Oakland/ 11	39	N/A/ 1994	100.00%	43,100	2	1,000-1,350	1,105	\$0.75 - \$0.83	Tenant pays for all utilities except water and garbage	None	1 year	Reinforced masonry
Oakland: Total/Average	101						1,286	\$0.00				

Notes:
(1) Information per 1991 Survey.
SF= San Francisco; OAK = Oakland.

Sources: "San Francisco Live/Work: A Market Survey," a joint project of California Lawyers for the Arts and the San Francisco Arts Commission; Sedway & Associates.
D:\28994\LWORKR8.WK4

24-May-95
02:48 PM

TABLE 13
RENTAL LIVE/WORK PROJECTS
SAN FRANCISCO/OAKLAND
MAY 1995

Type/ Project/ Address Developer/City	Amenities: Ceiling Height	Amenities: Roll-Up Door	Amenities: Floor Covering	Amenities: Full Kitchen Bathrooms	Amenities: Common Space	Buyer/Tenant Profile: Area: Live/ Work	Comments:
Renovation							
West Coast Macaroni Building 1250 57th Avenue N/A/OAK	11 1/2 - 13'	N/A	Concrete on ground; wood on second	All units	N/A	N/A	Gated, secured parking No traffic congestion: subject located at end of dead end street
2934 Ford Street N/A/OAK	10' - 14'	15 - 20 units	Concrete	Partial to full kitchens, full bathrooms	Planter boxes through-out. Tenants enjoy plot of land for planting	Not preferred: musicians and groups	Security big issue Electronic gated parking; additional lighting
Exchange Studios 527 23rd Avenue/OAK	12' - 22' 1st Flr: 12' 2nd Flr: 12 - 22'	No	1st Flr: Ply-wood; 2nd Flr: Poured concrete	Full Kitchens with appliances Full bathrooms	10,000 square foot courtyard with landscaping througout	50% profes-sionals; 50% artists/profes-sionals	Secured garage parking with electronic gates (one per unit) Electronic Intercom system for non-tenant entry

Notes:
(1) Information per 1991 Survey.
SF= San Francisco; OAK = Oakland.

Sources: "San Francisco Live/Work: A Market Survey," a joint project of California Lawyers for the Arts and the San Francisco Arts Commission; Sedway & Associates.

D:\28994\LWORKR5.WK4

24-May-95
02:48 PM

TABLE 14
ESTIMATED DEMAND FOR NEW ATTACHED HOUSING UNITS
PRICED FROM $100,000 TO $250,000 (a)
SAN FRANCISCO
1996 - 2025

	Phase I 1996 - 2000	Phase II 2001 - 2005	Phase III 2006 -2010	Phase IV 2011 - 2015	Phase V 2016 - 2020	Phase VI 2021 -2025
Annual Demand From New Household Growth						
Average Annual Household Growth	1,980	2,000	1,780	1,972	2,029	2,087
x Percent Income-Qualified (b)	40%	40%	40%	40%	40%	40%
x Percent Planning to Purchase a Home (c)	35%	35%	35%	35%	35%	35%
x Percent Planning to Purchase an Attached Home (d)	75%	75%	75%	75%	75%	75%
x Percent Planning to Purchase a New Attached Home (e)	50%	50%	50%	50%	50%	50%
Total Annual Demand From New Household Growth	104	105	94	104	107	110
Demand From Existing Households						
Total Existing Households	318,450	328,400	337,850	347,230	357,232	367,523
x Percent of Households in Turnover (f)	14%	14%	14%	14%	14%	14%
x Percent Income-Qualified (b)	40%	40%	40%	40%	40%	40%
x Percent Planning to Purchase a Home (c)	30%	30%	30%	30%	30%	30%
x Percent Planning to Purchase an Attached Home (d)	50%	50%	50%	50%	50%	50%
x Percent Planning to Purchase a New Attached Home (e)	25%	25%	25%	25%	25%	25%
Total Annual Demand From Existing Households	669	690	710	730	751	772
Total Annual Demand For New Attached Units (g)	773	795	804	834	858	882
Grand Total Five-Year Demand	3,865	3,975	4,020	4,170	4,290	4,410
Hunters Point Shipyard Capture Rate	10.0%	15.0%	15.0%	20.0%	20.0%	20.0%
Total Potential Absorption	387	596	603	834	858	882
Cumulative Absorption	387	983	1,586	2,420	3,278	4,160

Notes:
a. Price range determined by current residential comparables in market area (see Table 11).
b. Reflects an annual income of approximately $25,000 to $62,500.
c. Derived from San Francisco's existing and historic home ownership rate.
d. Based on historic MLS data and separate data regarding home purchase trends.
e. Based on examination of historic MLS data and separate data regarding new condominium sales compiled by S&A.
f. Based on sales data calculated by S&A and on industry standards.
g. For independent affirmation of this methodology please see historical data trends from the Construction Industry Research Board in Table 16.

Sources: Association of Bay Area Governments (ABAG) "Projections '94"; U.S. Bureau of the Census, "1990 Census of Population and Housing," San Francisco; & Sedway & Associates.
D:\28994\TABLES\HOUS_CAP.WK4

08:57 AM
25-May-95

TABLE 15
PROJECTED HOUSEHOLD POPULATION AND HOUSING UNITS
SOUTH BAYSHORE, SAN FRANCISCO AND BAY AREA
1980-2025

	1980	1990	1995	2000	2005	2010	2015	2020	2025
Household Population									
South Bayshore	20,884	27,667	29,956	31,688	33,408	34,719	36,082	37,499	38,971
San Francisco	654,511	699,330	746,200	766,500	786,800	801,000	815,456	830,173	845,155
Bay Area	5,058,620	5,869,683	6,355,250	6,722,750	7,087,550	7,365,750	7,654,870	7,955,339	8,267,601
Number of Households									
South Bayshore	7,152	8,646	9,083	9,644	10,244	10,276	11,232	12,277	13,419
San Francisco	298,956	305,584	313,500	323,400	333,400	342,300	351,438	360,820	370,452
Bay Area	1,970,551	2,246,242	2,361,010	2,512,270	2,662,170	2,792,030	2,928,225	3,071,064	3,220,870
Persons Per Household									
South Bayshore	2.9	3.2	3.3	3.3	3.3	3.4	3.2	3.1	2.9
San Francisco	2.2	2.3	2.4	2.4	2.4	2.3	2.3	2.3	2.3
Bay Area	2.6	2.6	2.7	2.7	2.7	2.6	2.6	2.6	2.6
Housing Units									
South Bayshore	7,509	9,251	9,620	10,046	10,671	10,704	11,700	12,788	13,978
San Francisco	316,608	328,471	335,294	342,222	347,292	356,563	366,081	375,854	385,888
Bay Area	2,061,343	2,365,323	2,459,385	2,616,948	2,773,094	2,908,365	3,050,234	3,199,025	3,355,073

Sources: City of San Francisco; Association of Bay Area Governments (ABAG); 1993 CACI Marketing Systems; and Sedway & Associates.
F:\28994\TABLES\POP_HHD.WK4

02:06 PM
25-May-95

TABLE 16
SAN FRANCISCO RESIDENTIAL BUILDING PERMITS
1970 - 1994

Year	Single Family	Multifamily	Total
1970	144	1,627	1,771
1971	175	3,439	3,614
1972	169	3,270	3,439
1973	286	3,865	4,151
1974	223	1,163	1,386
1975	276	866	1,142
1976	312	1,310	1,622
1977	369	1,167	1,536
1978	227	1,818	2,045
1979	239	1,594	1,833
1980	190	1,012	1,202
1981	83	1,159	1,242
1982	150	1,065	1,215
1983	154	1,058	1,212
1984	409	904	1,313
1985	173	1,217	1,390
1986	139	1,898	2,037
1987	155	2,287	2,442
1988	157	1,774	1,931
1989	147	1,361	1,508
1990	161	916	1,077
1991	195	792	987
1992	70	559	629
1993	82	919	1,001
1994	106	833	939
Total Annual Average:	192	1,515	1,707

Sources: Construction Industry Research Board; and Sedway & Associates.
D:\28994\TABLES\BPS_SF.WK4

02:52 PM
23-May-95

TABLE 17
HUNTERS POINT SHIPYARD
CULTURAL USES
TENANT MIX AND ANNUAL PARTICIPATION RATES
1996-2025

		Participants							
		Employees		Student		General Public (1)		Total
Tenant	Total Square Feet	Total Number	Square Feet Per Person	Total Number	Square Feet Per Person	Total Number	Square Feet Per Person	Total Number
1. Museum	45,000	52	870	NA	NA	5,000	NA	5,052
2. Theater (2)	5,000	6	830	NA	NA	2,500	NA	2,506
3. Production and Recording Studio (3) Video Audio and Digital Studio Multimedia	15,600	74	210	NA	NA	3,000	NA	3,074
4. Dance Studio (4)	5,000	3	1,667	10	500	1,900	NA	1,913
5. Publishing and Printing	15,000	21	360	NA	NA	NA	NA	21
6. Printmaking (5)	10,000	23	435	300	NA	NA	NA	323
TOTAL	95,600	179	729 (Average)	310	NA (Average)	12,400	NA (Average)	12,889

Notes:
1. General public participation rates will increse over time. Rates based on initial years of project development.
2. Square footage based on the size of several local and regional theaters surveyed. In addition, general public participation was calculated based on the following set of assumptions: 50 stage performances per year with approximately 50 audience members per performance.
3. Square footage based on each component (video, audio, and multimedia) occupying approximately 5,000 square feet. General public attendance for productions and theater presentations is based on an existing audio/video organizations performance schedule which is calculated at 1,500. This number has been doubled to include the general public participation for the various stage and related productions for the other components.
4. According to an employee of an existing dance company, the general public attendance (regular performances and community education) is calculated based on the following assumptions: general performances participation averaging 1,000 per year and community education (via local schools) 30 performances per year with 30 students per performance.
5. Square footage and participation rates are based on an existing East Bay co-operative printmaking studio. According to one source, approximately 300 students per year participate in printmaking classes offered on-site.

Sources: Representatives of various museums, theaters, production and recording studios, dance studios, and printmaking organizations; and Sedway & Associates.
[28994\cultraf,mkw,5/95]

02:57:09 PM
05/25/95

TABLE 18
LOCAL THEATER COMPARABLES
SAN FRANCISCO
APRIL 1995

Name Address	Year Opened	Size (Sq. Ft.)		Monthly Lease Rate	Per Sq. Ft.	Program Description	Annual Budget	Revenue/Funding Source	Percent	Comments
Intersection For the Arts 446 Valencia at 16th St.	1990 (1)	1,500 600 2,400 4,500	Administrative Stage Area Gallery Total	$2,000	$0.44	- Development of new work-performances - Literary Program (including writers, visual artists, and theater artists)	NA	Tickets-Literary Program Readings-$5/ Tickets-Performances-$10 to $12/ea. Theater Rental-Varies Foundation-Varies Local Donors	NA NA NA NA NA	The theater has recently completed a major renovation program. The theater includes 49 seats and its 2,400 square foot gallery space is unique to local theaters. In the future, Intersection will rely on an increasing percentage of revenue to be generated from the direct rental of the theater. This will allow Intersection to aggressively market their space to local and traveling theater companies and to reduce the risks and costs of developing and producing new work in house. Intersection consists of an in-house grant-making arm that funds the development of new work. Intersection plans to pursue NEA funding and specifically an advancement grant to allow the organization to strategically plan and restructure its program and structure. The theater has no plans to relocate or expand. In addition, the theater has had problems concerning its location in the Mission District including security and image.
Artists' Television Access (ATA) 992 Valencia at 21st St.	1985	500 500 250 250 1,500	Administration Stage Area Post Production Rm Post Production Rm Total	NA	NA	ATA is a non-profit, artist-managed, media arts center. - Provides low-cost access to and training in video technologies (including video classes) - Exhibits video and film works	NA	Classes Post Production Facility Hotel Tax Fund Foundation-Varies Local Donors	5% 80% NA NA NA	ATA was previously located in SOMA; however, space was destroyed in a fire. According to one source, the rent is inexpensive but the theater is currently in a state of disrepair. The space was "built out by artists" and doesn't meet basic needs concerning safety and sanity. ATA doesn't have a member base and all labor is volunteered and provided by artists in exchange for access to the post production facility. ATA recently lost its biggest grant (NEA). In addition, the source mentioned that San Francisco would benefit from additional video studio space that would be operated as a collective with shared equipment and related services.
EXIT Theatre William Penn Court 156 Eddy at Mason St.	1993 (2)	1,657		$580	$0.35	EXIT Theatre is a small performing arts organization located in the William Penn Court in the Tenderloin.	$100,000 (3)	Ticket Sales Rentals/Concessions Advertisements Grants for the Arts CA Arts Council Foundation Grants Individual Contributions Corporate Support	22% 10% 1% 10% 5% 41% 5% 5%	EXIT Theatre was approached by Chinese Community Housing Corp. (CCHC) in 1989 with the idea to create a retail mini-mall anchored by cultural uses to be located at the William Penn Court. CCHC received grant funds to assist in the renovation/development of the mini-mall and had designed a tenanting mix to include an antiquarian bookstore, a bookstore/cafe, a display baking school, and related retail. By the time EXIT agreed and signed a Memo of Understanding (MOU) all rehabilitation funds had been obligated for the other tenants and EXIT was required to provide all construction funds to convert the raw space located at the back of the building into a theater ($157,000), including a $90,000 loan from the Mayor's Office of Housing. In addition, EXIT Theatre installed all of their own theater equipment that they had accumulated over the last twelve years and two staff members have dedicated several years in developing the organization. EXIT Theatre has dedicated all of their recent grants to the project. The theater filed permits for a change in occupancy from 49 to 128 seats and in 1994 obtained a public assembly permit and food and beverage license.

Notes:
(1) Intersection for the Arts was originally started in North Beach during the 1960's. The theater has been located at 446 Valencia since 1990.
(2) EXIT Theatre was formed approximately 12 year ago.
(3) 1993-94 Budget.

Sources: Staff and interns at various theaters; and Sedway & Associates.
[28994/theatre.mkw,4/95]

05/25/95
11:37:03 AM

TABLE 19
ARTIST STUDIO SPACE
SAN FRANCISCO
APRIL 1995

Number of Day Studio Units (1)	284
Adjustment (10%) (2)	28
Total Number of Day Studio Units	**312**

Day Studio Square Feet	Day Studio: Number per Square Feet Range	Day Studio: Percent of Total	Square Feet (Range)		
500 or less	75	24%	37,488	-	37,488
501 - 700	34	11%	17,216	-	24,055
701 - 900	34	11%	24,089	-	30,928
901 - 1,100	75	24%	67,553	-	82,474
1,101 - 1,300	28	9%	30,956	-	36,551
Over 1,300	66	21%	85,285	-	85,285
TOTAL	312	100%	262,588	-	296,780

Notes:

(1) Day studio space was based on existing studios as documented by the Open Studios program; located in the following neighborhoods: South of Market, Mission District, Potrero, and Bayview/Hunters Point (excluding Hunters Point Shipyard Studios).

(2) A ten percent upward adjustment factor was included based on the number of artists located in these neighborhoods that do not participate in Open Studios.

Sources: Artspan; Arthouse, "A Live/Work Consumer Survey-1991"; and Sedway & Associates.
[28994\oh,mkw,5/95]

05/25/95
09:41:25 AM

TABLE 20
COMPARABLE STUDIO DEVELOPMENTS
SAN FRANCISCO AND EAST BAY
APRIL 1995
(PAGE 1 OF 3)

Location Project/ Address	Number of Studios	Year Originally Built/ Renovated/ Opened	Occupancy Rate (%)	Building (Sq. Ft.)	Number of Stories	Unit Size Range (Sq. Ft.)	Unit Size Average (Sq. Ft.)	Average Rent (Per Sq. Ft.)	Tenant Expenses	Amenities	Comments
Potrero											
Live Art Studio 151 Potrero at 16th St.	16	NA 1980	75%	NA	1-story	150 to 585	200	$245 $0.77	Includes all expenses.	Gallery-400 sq. ft. Some Natural Light Shared Restroom Shared Sink Area Shared Refrigerator Separate Phones	Live Art Studio started as a co-operative in 1980 and still continues to operate as a co-operative (same master lessor and lessee). The studio development is primarily targeted to beginning artists. Several tenants have rented space for at least 2 to 3 years. The larger units (over 500 square feet) are more difficult to rent and a majority of potential tenants have mentioned their inability to pay more than $200 in monthly rent. The master lessee leases one-floor of a 3-story building. Related uses are targeted to small businesses and non-profits including Apprentice Alliance. According to management, the artists take turns showing their work in the shared gallery and specific "showing" terms are included within the sublease agreement. In addition, the fire department doesn't allow walls or partitions to separate the suite areas. Furniture doubles as suite partitions. Management mentioned that artists have not always complied with the clean-up and removal of work related materials.
The Art Explosion-Gallery and Studio 2425 17th St. at Potrero	21	NA 1994	75%	NA	1-story	140 to 400	NA	NA $1.00	Includes all expenses.	Gallery (within studio area) Natural Light Ceilings-14ft. Skylights Shared Restrooms	Two artists (master lessee) started this co-operative studio and gallery development in Fall 94. The building is an old industrial building that was previously used as a garment factory. Art Explosion occupies the second floor of this two-story building. Studio space is informally divided. The gallery is geared to sell artists work and includes outside artists work. The development doesn't currently have paid staff and artists must contribute their time to the general upkeep, etc.
South of Market											
The Clay Studio Harrison at 3rd St.	32	NA 1995	69%	19,000	1-story	150	150	$150 $1.00	Includes all expenses.	Gallery-1,100 sq. ft. Retail Outlet-200 sq. ft. (proposed) Ceramic class area-3,500 sq. ft. Ceiling-17 ft. to 25 ft. Tool Room Chemical Area	The Clay Studio was previously located in the Mission District on Julian St. However, the founder (master lessee) recently relocated to Harrison for several reasons including: cheaper rent, better location, more space. According to the founder, the Mission St. location suffered from poor public image and at the time of the original lease (mid-1980's) the rent increase clause was steep. Approximately 7 classes per week are offered to non-professionals and a series of 8 classes cost $165 (including materials and studio time). The number of children taking classes has increased in the past several months. The ceramic studios are small cubicle areas with 3-walls, no ceilings, and no individual water hook-ups. The cubicles have access to a five foot aisle area. The ceramic studio area totals approximately 4,800 square feet. The founder of the Clay Studio acquired the original equipment when the DeYoung Museum closed its art school program several years ago.

continued..

TABLE 20
COMPARABLE STUDIO DEVELOPMENTS
SAN FRANCISCO AND EAST BAY
APRIL 1995
(PAGE 2 OF 3)

Location Project/ Address	Number of Studios	Year Originally Built/ Renovated/ Opened	Occupancy Rate (%)	Building (Sq. Ft.)	Number of Stories	Unit Size: Range (Sq. Ft.)	Unit Size: Average (Sq. Ft.)	Average Rent (Per Sq. Ft.)	Tenant Expenses	Amenities	Comments
South of Market (cont...)											
SOMA Artist Studios 689 Bryant at 5th St.	14	1945 1990	100%	NA	2-story	250 to 550	NA	NA $1.00	Includes all expenses.	Gallery (Hallway) Shared Kitchen Shared Bathrooms Ceilings-8 ft.	The SOMA Artist Studios is located at the site of the old EBA School which closed down approximately five years ago. The owner of a local Korean newspaper owns the building and has leased the space to a group of artists who formed a co-operative and established a sublease arrangement. According to one source, the master lessee pays $0.55 per square foot and charges $1.00 per square foot to tenants. The owner has seismically upgraded the building. The wide halls serve as the gallery area. The tenants are typically fine artists. Artists are assigned certain tasks concerning upkeep, etc. SOMA Artist Studios currently has a waiting list for studio space.
The Serta Building 1777 Yosemite Ave. at 3rd St.	35	NA NA	100%	133,000	3-stories	600 to 15,500	NA	NA $0.50	Includes all expenses.	NA	Studio space is located in an old converted Serta mattress factory. According to one source, the building includes one unit at 15,500 square feet. The 3-story building is primarily occupied by crafts (1st floor) and visual artists (2nd and 3rd floors). Zaccho Dance Company, a multicultural dance troupe, is located in approximately 4,200 square feet of space and represents the only performing artists leasing space at the Serta building. Zaccho has built an active arts and education program for students in the Bayview/Hunters Pt. community.
Mission District											
Francisco Studios San Jose Ave. at Geneva	45	NA 1990's	78%	NA	3-stories	700 to 900	700	$700 to $800 $0.88 to $1.00	Includes all expenses.	Large Windows Running Water Ceilings-20 ft.	According to the owner, Francisco Studios has a high turnover rate (2 to 3 per month). He mentioned that he receives more inquiries for studio units located close to downtown SF. Tenants are primarily fine artists.
East Bay											
Nexus Institute 2707 8th St. Berkeley	NA	1983 NA	NA	30,000	NA	NA	NA	NA	NA	NA	Nexus Institute is a non-profit co-operative community benefit studio development. According to a source, the tenant mix consists of 15 visual artists occupying 20,000 square feet of studio space and a seperate woodworking co-operative that occupies 10,000 square feet. No additional information is currently available.
Bayside Court West Oakland	4-Studio 31-L/W 35 Total	1929 1995	NA	50,000 (Approx.)	NA	1,300 to 1,400	1,300 to 1,400	$500-Studio $750 to $900-L/W Per Square Foot $.35 to $.38-Studio $.58 to $.64-L/W	NA	NA	The building is currently being renovated. It was originally built in 1929 and was used as a large commercial laundry. The building has reinforced concrete.

continued..

TABLE 20
COMPARABLE STUDIO DEVELOPMENTS
SAN FRANCISCO AND EAST BAY
APRIL 1995
(PAGE 3 OF 3)

Location Project/ Address	Number of Studios	Year Originally Built/ Renovated/ Opened	Occupancy Rate (%)	Building (Sq. Ft.)	Number of Stories	Unit Size: Range (Sq. Ft.)	Unit Size: Average (Sq. Ft.)	Average Rent (Per Sq. Ft.)	Tenant Expenses	Amenities	Comments
East Bay (continued..)											
Kala Institute 1060 Heinz Ave. near San Pablo Ave.	See Comments	NA 1974	NA	8,000	NA	Shared Worksho 5,280	NA	Kala-Rent $3,000 $0.38 Member Fees $175-Seniors $200 to 300- Other Members	Includes all expenses.	Gallery and Administration-2,840 sq. ft. Open 365 days/yr.-24 hrs./day Achives and Dark Room Education and Training Component Shared Equipment/Presses- (6) Ethching, (2) Lithographs,and (2) Letter Large Storage Area Kitchen area including sink, stove, and microwave Shared restroom area including shower Small private area	The Kala Institute represents a loosely formed non-profit co-operative for printmakers and other artists that work with paper, film, etc. The workshop space is full of shared equipment and storage facilities and is organized for the production of art. Formed in the 1974, the Kala Institute has been located for 15 years in the old Heinz Building. Kala recently executed a new five year lease. Kala represents an urban artist retreat with international attraction which annually allows for nine (six month) fellowship positions-(Artist in Residency Program). Fellows are guaranteed to show their work in the gallery. In total, membership ranges between 40 to 45 members per year. While all artists can apply to be general members, the process includes a portfolio review and artists must have the technical knowledge of printmaking. While Kala is structured for approximately 40 members, typically only 15 are actually paying members. The Institute members include: fellows, (6) workshop managers, staff, interns, and paying artists. Members must sign a contract to work in space. Length of contract varies from a few months to several years. Member fees vary per length of contract and the members ability to help with chores, teach classes, etc. In addition to its members, Kala offers 75 classes per year which are open to the public. Approximately 300 students per year participate in this program. Classes are targeted to post graduate level students. Kala is not a money maker and relies on several sources of revenue including the following: (15%)-Artist in Residency Program; (15 to 20%)-Classes; (15 to 25%)-Gallery Sales; (5%)-Contract Printing for Artists; (5%)-Public Grants; (5%)-Supporting Members and Board Members; (NA)-Private Grants. According to one source, earned income typically is greater then 50% of all revenue.

Sources: Various artists, management representatives, and studio development owners; and Sedway & Associates.
[28994\comp.mkw,4/95]

05/25/95
11:38:07 AM

TABLE 21
CO-OPERATIVE ART GALLERIES
SAN FRANCISCO AND ARIZONA
APRIL 1995

City/ Neighborhood Name Address	Year Opened	Size (Sq. Ft.)	Ceiling Heights	Rent/Mo. Rent/Sq. Ft.	Number of Artists In Co-op	Artist Association Work/Fee Tradeoff	Management of Gallery	Annual Sales Generated	Estimated Visitors per year/ Visitors Market Area	Comments
San Francisco										
Southern Exposure at Project Artaud 401 Alabama at 17th St.	1974	(2) Gallery Rooms 2,400 First Floor 400 Second Floor 2,800 Total	 28 feet 16 feet	$835 $0.30	NA	NA	3 part-time employees	NA Gallery is not geared to sell art work and doesn't include the sale of art work as a source of revenue.	NA	Southern Exposure was originally formed as co-operative gallery in conjunction with the Project Artaud Live/Work Development. However, in late 1980's, the gallery was converted to a community service gallery targeted to new and emerging innovative artists. Currently, Southern Exposure is a project of Project Artaud Corporation, a non-profit organization and it leases the gallery from Project Artaud. Programs include exhibitions, performance events, artists' talks and forums, and educational and literary projects. Exhibiting artists receive an honorarium that averages $200. Typically, eight shows per year are presented. Southern Exposure has no plans to expand or relocate to the Shipyard. However, the gallery is interested in the possibility of expanding their Artists in Education program to the Bayview/Hunters Point community.
Collision 417 14th St. at Valencia	1994	600 Gallery 1,200 Studio 1,200 (3) Apartments 3,000 Total	NA	$330 to $550 Per Artist	11	In addition to rent structure, each artist is informally assigned tasks regarding marketing, administration, etc.	By Artists	NA Gallery is presently not structured to make substantial sales.	NA	Collision represents a first time effort by the 11 artists to develop and manage a co-operative gallery, studio, and living space environment. Collision is located in an old Victorian house that was previously used by an artist as an art store and gallery. The current artists share three residential units which are located on the second and third floor. A majority of the artists have full-time jobs, three artists are in school, and only one is a full-time artist. The leasing arragement includes a one year lease for the ground floor gallery/studio space and the residential units are month to month. The gallery charges a nominal fee for shows. To date, almost all of the show and installations have been from outside the core group of 11 artists.
848 Community Space 848 Divisidero at McAllister	1990's	NA	NA	$1,200 Live-in Artistis pay $600 for rent/ $600 Gallery	4	Yes	By Artists	NA	NA	848 Community Space is loosely structured as a co-operative. It includes 4 directors/curators: (1) visual director, (2) performance artist directors, and (1) community/music director. The two performance artist directors live at the gallery (in a seperate living area). As directors, the four artists act as liasons to each respective artist community and help market the space for rentals. The gallery/performance area shares the same area for all performances. The space is built out as a theatre with lighting, etc.
Tuscon, Arizona										
Dinnerware	1979	1,200 Exhibit Area 600 Administrative 1,800	NA	$700 $0.39 Lease with option to purchase	16 Maximum	Yes $35/Mo. and $35-Initiation Fee	1-staff (f/t) 1-staff-(p/t) Interns Director Members	NA Gallery is not structured to make substantial sales. Sales account for less than five percent of revenue.	NA	Dinnerware is located in the downtown Tucson artist district. In 1990, the city developed a city center/artist area plan. The city purchased three adjacent buildings to provide arts-oriented space for galleries and related uses (screening room, and black box theatre). Dinnerware already existed in their downtown location and the other arts organizations relocated into the area. The development and implementation of the artist district has led to other arts organizations relocating downtown. In some instances, artists have purchased buildings within this core area. During the past 15 years, the over 72 artists have been director members. The gallery show both members' work in addition to the work of outside emerging artists. Dinnerware currently has an annual budget of $55,000. Sources of revenue include: public grants (20%), foundations (5 to 10%), member directors (10 to 15%) and individual giving. According to one source, the downtown arts organizations have not extensively collaborated on larger scale performance, etc.

Sources: Gallery representatives; and Sedway Kotin Mouchly Group (SKMG).
[28994\coopgal.mkw,3/95]

05/25/95
11:36:41 AM

TABLE 22
HUNTERS POINT SHIPYARD
EDUCATION/TRAINING USES
TENANT MIX AND ANNUAL PARTICIPATION RATES
1996-2025

Tenant	Total Square Feet	Participants: Employees Total Number	Employees Square Feet Per Person	Student Total Number	Student Square Feet Per Person	General Public (1) Total Number	General Public (1) Square Feet Per Person	Total Total Number
1. Vocational Training School	100,000	25	4,000	1,200	83	NA	NA	1,225
2. Horticulture and Food Training Program (2)	100,000	110	909	850	118	1,000	100	1,960
3. Artist School/Artist in Residency Program (3)	100,000	103	971	620	161	500	200	1,223
4. Public Educational San Francisco Unified School District (4) San Francisco City College	100,000	22	4,545	1,000	100	NA	NA	1,022
5. Community-Based Organization (CBO) (5) Training Collaborative	60,000	10	6,000	150	400	NA	NA	160
TOTAL	460,000	270	3,285 (Average)	3,820	172 (Average)	1,500	NA (Average)	6,590

Notes:

1. General public participation rates will increase over time. Rates based on initial years of project development.
2. Square footage based on a food training facility consisting of 70,000 square feet and an indoor horticulture/urban garden occupying 30,000 square feet. According to several sources active with urban garden projects, an outdoor garden and composting area ranging from two to five acres could be included in the Horticulture and Food Training Program. General public participation is based on the assumption that the urban garden/composting program will actively sell goods to local residents and restaurants.
3. Square footage of Artist School component is based on an existing Bay Area art school with two locations. The two sites located in the East Bay,150,000 square feet, and San Francisco at 30,000 square feet, currently employ approximately 200 instructors/administrators and have an enrollment of approximately 1,100 students.. Square footage of Artist in Residency component is based on existing programs in the United States. Program could include twenty live/work units, ceramic arts facility, and gallery. In addition, based on existing models, the Program could include shared workroom space and amenities (e.g., woodshop, metal shop, small photolab, and an arts library). In addition, it was assumed that general public participants would average 500 per year.
4. Total number of participants is based on student enrollment and existing employee ratios for Thurgood Marshall Academic High School located in the Bayview neighborhood. According to a source, the school currently has 310 students (ninth-grade only)and full occupancy will be achieved in 1998 with 1,000 students (ninth- through twelveth- grade). Employee participation rate may vary.
5. Square footage based on the average size of several education and training facilities surveyed. Student (client) participant ratio may vary.

Sources: Representatives of vocational schools, horticulture and food training programs, artist schools, artist in residency programs, San Francisco Unified School, and community-based organizations; and Sedway & Associates.
[28994\edtraf.mkw,5/95]

05/25/95
11:23:33 AM

TABLE 23
NONPROFIT EDUCATION AND TRAINING ORGANIZATIONS
SAN FRANCISCO
APRIL 1995
(PAGE 1 OF 2)

Organization Address	Size of Facility (Sq. Ft.)	Monthly Rent	Program (s) Description	Length of Program (s)	Number of Clients Served	Percent Bayview/Hunters Pt. Residents Served	Comments
Bay Area Urban League 637 Divisidero at Hayes	NA	NA	Assists in the development of on-the-job training opportunities in administrative, clerical, and service occupations. Related programs include: -Job Training Partnership Act Projects -Annual Job Fairs -Employment Counseling -North Cities Coalition -HIV/AIDS Education/Prevention	Ranges from 1 to 3 months.	44 per each cycle	NA	The organization is the Bay Area representative of the national Urban League organization. Future Urban League plans include the expansion of the alternative school program (i.e.,) the Oakland/Emiliano Zapata Street Academy. The alternative school program annually enrolls 150 students ranging in age from 14-19. The alternative school is administered by the Urban League through a contractual agreement with the Oakland Unified School District. In addition, the Urban League is interested in developing a vocational training center in conjunction with the alternative school program. As tentatively proposed, the two programs would require approximately 20,000 to 30,000 square feet. The Urban League is interested in providing services to the development and expansion of education and training programs in Bayview/Hunters Pt. As such, the Urban League would like to collaborate with CBO's in the Bayview/Hunters Pt. community and assist in the development and strategic planning of future programs.
The Family School (TFS) 548 Fillmore at Oak	NA Nursery Area Preschool Classroom Classroom Area Administration Area	NA	Competency-based skills instruction designed to improve the basic skills of participants, combined with computer literacy training. Services and additional programs include the following: -GAIN Program -Foster Care Program -Childcare Services -Next Step Program -Tutoring and Mentoring Programs	Over a 12 month period.	51 (from 7/94 through 3/95)	85% African American 15% Latina 75% SOMA (1) 25% NOMA (2)	TFS represents a unique program and a working model for welfare reform. The Greater Access to Independence (GAIN) program is one of few programs targeted to AFDC moms. In addition, TFS provides childcare on-site for the GAIN program clients. The vast majority of moms have little or no work history and participants range in age from 18 to 49. A majority of the GAIN participants enroll their children in the infant and preschool centers. The average age of participants is 27 years old. TFS was incorporated in 1896 as a community-based non-profit agency providing comprehensive education services to women wanting to transition off welfare and into the labor market. Originally, all GAIN participants were from the Hayes Valley Housing Projects. TFS has an annual budget of $500,000. In addition to the GAIN program, a Foster Care Program, which takes place at night, provides living skills education and personal empowerment classes to youth in San Francisco. Approximately 200 (out of 300 total) foster care kids participate in this program. According to one source, the number of foster kids currently participating in a TFS/San Francisco Educational Services collaborative program is 92. Almost 60% of these participants are from Bayview/Hunters Pt. TFS is currently researching the feasibility of expanding their operation and is interested in the possibility of spearheading the development of education/training/ childcare services and related programs at the Shipyard. TFS would like to work directly with Bayview/Hunters Pt. CBO's in the development and implementation of a facility to be located at the Shipyard.
Asian Neighborhood Design (AND) Connecticut St. at 26th St.	17,000	NA-Own	Classroom training for construction and cabinet-making occupations.	Over a 15 week period.	100 to 120 (1) Just received additional funds to expand program	15%	AND represents a nationally recognized model concerning education and job training. The program will expand to Oakland later this year to reestablish its roots in the East Bay. AND recently acquired and is currently renovating a 55,000 square foot building with occupancy scheduled for Fall/Winter 95. In addition the program will "franchise" its model for the development of a cabinetry and construction program in Boston. AND was previously based in Bayview at Yosemite and 3rd St. However, AND acquired a site and built its current Potrero facility to allow it to provide more citywide services. In addition, AND occupies space on Bush St. This location represents the business and development arm of AND and includes housing development, architectural services, and family and youth counseling services. AND will be expanding its cabinetry and construction program to include Computer Aided Design (CAD) and regular drafting training. This is intended to allow the education and training program to parallel the services provided by the business and development facility.

continued...

TABLE 23
NONPROFIT EDUCATION AND TRAINING ORGANIZATIONS
SAN FRANCISCO
APRIL 1995
(PAGE 2 OF 2)

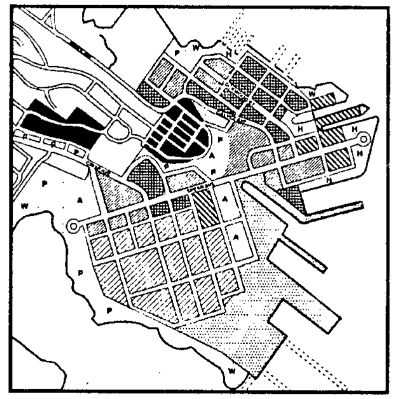
Organization Address	Size of Facility (Sq. Ft.)	Monthly Rent	Program (s) Description	Length of Program (s)	Number of Clients Served	Percent Bayview/Hunters Pt. Residents Served	Comments
Goodwill Industries Mission St. at 11th St.	106,000 30,000 136,000	NA- Own	Referral and on-the-job training in service industry, computer applications, and retail services. Also provide: -English as a Second Language -Continuing Career Education Homeless and Title III are eligible applicants.	Ranges from 1 to 9 months.	70/daily	NA-With relocation back to SOMA it is expected that fewer Bayview/Hunters Pt. residents will be served.	Since the 1989 earthquake, Goodwill Industries has been leasing temporary space on Army St. The earthquake damaged their original Howard St. facility which Goodwill Industries owned. Approximately $9.7 million of the total cost of $14 million is from FEMA funds which was used to acquire and renovate the new space (previously the Coca-Cola bottling plant) on Mission St. The temporary Army St. lease consisted of 46,000 square feet with $24,000 in monthly rental payments (or $0.52 per square foot/month). The new site will include a seperate two-story 30,000 square foot building which will house the offices and a new thrift store next to the 106,000 square foot renovated headquarters. Goodwill Industries currently leases approximately 12,000 square feet of space at the Bayview Plaza. The space, which has approximately five years remaining, is currently underutilized and Goodwill is considering realtering the floor plan to allow for community meeting space/classrooms in addition to the retail component. Goodwill has no plans to expand or relocate to the Shipyard. According to one source, Goodwill would be interested in assisting in the development of a education and training program (specifically if it involved arts) at Hunters Pt. With its new space on Mission St., Goodwill will be able to triple the number of daily participants in their programs including: retail/merchandising training, English as a Second Language (ESL), computer courses and career education. Goodwill Industries is set up as a junior/community college and is a credited secondary school.
Arriba Juntos 2017 Mission St. at 16th St.	10,000	$7,000 $0.70	Nursing and home health, computer skills, on-the-job training programs. eligible applicants. Also provide: -Health programs for immigrant women, English as a Second Language, after-school programs, and youth at work. Arriba Juntos is currently developing a program concerning toxic and household hazardous waste removal.	Typically 10 weeks of education followed by occupational training.	600 per year in the education and training programs and 2,200 to 2,600 per year including all services.	16% Percent includes residents from Bayview/Hunters Pt. and Western Addition.	In addition to programs offered, Arriba Juntos works directly with Department of Social Service and their GAIN program. Arriba Juntos has seen the demand for their services increase dramatically and in the last six months have served approximately 500 people in the education and training program. In addition to the education and training facility, Arriba Juntos occupies a building on 24th St. at York for a Mental Health Center. Arriba Juntos is currently looking for a larger facility in the Mission District (15,000 to 20,000 square feet) and presently has no plans to expand to Bayview/Hunters Pt. However, according to one source, Arriba Juntos is interested in assisting in the development of a education and training program at the Shipyard.

Notes:
(1) South of Market includes the following neighborhoods: South of Market, Potrero, Mission District, Visitacion Valley, Bayview/Hunters Pt., and Excelsior.
(2) North of Market includes the following neighborhoods: Tenderloin, North Beach, and Hayes Valley.

Sources: Various contacts at education and training facilities; and Sedway & Associates.
[28994/edutrain.mkw,4/95]

05/25/95
11:25:23 AM

Appendix C



Current BRAC Leases

APPENDIX C: CURRENT BRAC LEASES

CONTENTS PAGE

APPENDIX C
CURRENT BRAC LEASES

Parcel (Sub-Parcel)	Building Number	Current Use[a]	Current Tenant[b]
A (N-17)	101	Art activities and office space	Agency (subleased to J. Terzian)
A (N-17)	110	Art activities	Agency (subleased to J. Terzian)
A (H-51)	158	Sentry house – main gate	EFA West
A (H-51)	322	Security guard and pass office	EFA West
A (S-46)	808	Copier paper and toner cartridge distribution center	Precision Transport
A (H-51)	915	Offices	Agency
A (N-3)	916	Restaurant	Dago Mary's Restaurant
B (N-4)	103	Art activities	Agency (subleased to J. Terzian)
B (N-4)	104	Art activities	Agency (subleased to J. Terzian)
B (N-7)	114 (113A)	Offices and workshop	Smith-Emery Co.
B (N-5)	115	Woodworking shop and work studios	Finish Works
B (N-5)	116	Picture framing	Frameworks and Various Artisans
B (N-4)	117	Art activities	Agency (subleased to J. Terzian)
B (N-7)	120	Athletic facility	Police Athletic Club
B (N-9)	125	Cabinet making, workshop, offices, and storage	Bridenthal Cabinetry
B (N-9)	128	Storage	CCSF DEA
A	Parcel A (60 acres)	Training for SF Police	Agency (licensed to SF Police)
B	Parcel B (5 acres northwest portion)	Training school	Agency (subleased to Strickland Educational Job Training Center)

APPENDIX C
CURRENT BRAC LEASES (CONTINUED)

Parcel (Sub-Parcel)	Building Number	Current Use[a]	Current Tenant[b]
C (N-11)	134	Refrigeration and air conditioning	Odaco, Inc.
C (N-23)	203	Power plant	Astoria Metals has access to the building for electrical reasons
C N-23)	215	Firehouse	EFA West
C (N-OS)	229	Electrical Substation	CINC PAC FLEET, Navy
C (N-26)	230	Wheel manufacturing	Ermico Enterprises
C (N-26)	236	Substation	Astoria Metals
C (N-24)	270	Equipment storage and office space	YYK (CINC PAC FLEET, Navy)
C (N-24)	271	Equipment storage and barge services office	YYK (CINC PAC FLEET, Navy)
C (N-24)	272	Offices, workshop, and storage	Carpenter Rigging and Ermico Enterprises
C (N-23)	275	Aluminum casting shop	Ermico Enterprises
C (S-27)	300	Electrical Substation	Astoria Metals has access to the building for electrical reasons
C (S-27)	301	Men's showers and locker rooms	Astoria Metals
C (S-27)	367	Field office	Astoria Metals
C (S-27)	Drydock 4 and south pier	Ship dismantling	Astoria Metals
D (S-28)	302	Locomotive Restoration Area	Golden Gate Railroad Museum
D (S-27)	306	Electrical Substation	Astoria Metals
D (S-27)	Regunning Crane	Lifting/unlifting heavy loads	Agency (sublicensed to Morrison-Knudsen)
D (S-43)	307	Equipment Storage	Agency (subleased to Wedrell,

APPENDIX C
CURRENT BRAC LEASES (CONTINUED)

Parcel (Sub-Parcel)	Building Number	Current Use[a]	Current Tenant[b]
			Wilson, and Sons)
D (S-27)	308	Saltwater Pumphouse	Astoria Metals does not use the building
D (S-27)	311	Unknown	Astoria Metals
D (S-39)	323	Art activities	Agency (subleased to J. Terzian)
D (S-28)	363	Workshop	Quality Craftsman
D (S-39)	364	Laboratory for metals analysis	Young Laboratories
D (S-28)	366	Workshop and art activities	Christian Engineering/ Agency (J. Terzian)
D (S-27)	372	Storage	Astoria Metals
D (S-27)	381	Offices and Workshop	Agency (subleased to Wedrell, Wilson, and Sons)
D (S-27)	383	Office space	EFA West (Caretaker Staff Office)
D (S-30)	401	Art activities, workshop, and storage	Di Paolo and Barbar/J. Heagy/ P. Powers/West Edge Design
D (S-30)	404	Workshop and manufacturing sheetmetal products	Mina Metal Corporation
D (S-37)	407	Moving and storage	American Van Lines
D (S-38)	411	Workshop, storage, and offices	Sierra Western Equipment (license)/Eric Lansdown/Christian Engineering
D (S-30)	412	Weight station	Golden Gate Railroad Museum
D (S-29)	417	Storage	Hydro-Chem
D (S-29)	418	Offices and workshop	Hydro-Chem
D (S-29)	424	Storage, laundry, and showers	Hydro-Chem

APPENDIX C
CURRENT BRAC LEASES (CONTINUED)

Parcel (Sub-Parcel)	Building Number	Current Use[a]	Current Tenant[b]
D (S-30)	435	Storage and art activities	J. Terzian/West Edge Design
D (S-30)	436	Storage and art activities	J. Terzian/West Edge Design
D (S-41)	606	Police staging area, offices, and vehicle storage	Agency (subleased to SFPD)
D (S-41)	Lot next to Bldg. 606	Helicopter landing pad	Agency (subleased to SFPD)
E (S-35)	371	Storage and scrap metal storage	S&W Productions
E (S-31)	405	Equipment	Clean Comp
E (S-36)	406	Automobile repair	B&A Bodywork/Towing
E (S-36)	413	Moving and storage	American Van Lines
E (S-35)	704	Maintenance workshop	Wagner Construction
E (S-45)	809	Locomotive storage and restoration area	Golden Gate Railroad Museum
E (S-OS)	Off Base	Railroad Right-of-Way	Golden Gate Railroad Museum

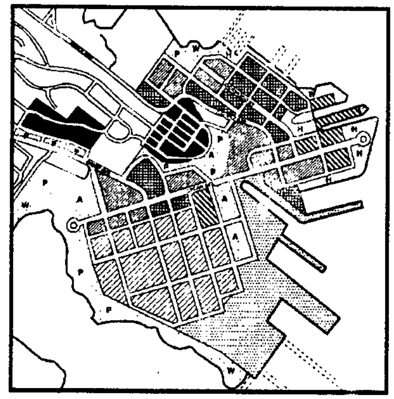
Source: U.S. Navy, 1998e.

Notes:

Agency	San Francisco Redevelopment Agency
Astoria Metals	Astoria Metals Corporation
CCSF	City and County of San Francisco
DOT	U.S. Department of Transportation
DEA	U.S. Drug Enforcement Agency
EFA West	Engineering Field Activity West
ft^2	Square foot
HPS	Hunters Point Shipyard
Hydro-Chem	Hydro-Chemical Services, Inc.
Navy	U.S. Department of the Navy
NRDL	Naval Radiological Defense Laboratory
SFPD	San Francisco Police Department
a	Only buildings currently used are listed. Buildings not listed are either not being used or have been demolished.
b	Building is being leased by listed tenant unless otherwise noted.

Appendix D

Community History



APPENDIX D: A COMMUNITY HISTORY

HUNTERS POINT SHIPYARD
A COMMUNITY HISTORY

FEBRUARY 1996

Purpose and Scope of Community History

This study chronicles the social and cultural development of the Bayview-Hunters Point District of the City of San Francisco from the 1940s to the present. Situated on a series of hills in the southeastern corner of the city, Bayview-Hunters Point is one of the most scenic sections of the San Francisco peninsula. This report explores the historical processes that have shaped this community, from turn-of-the-century fishing and maritime settlements, to the rise of the Naval Shipyard in the 1940s, through closure of the shipyard in 1974 and its aftermath.

Highlighted in this study is the reciprocal relationship between the district and the United States Naval Shipyard within its borders. The focus of this five and a half decades of history is on the enormous growth and change that occurred during the heyday of Hunters Point Naval Shipyard, from the 1940s through the 1970s, and on the linked destinies of the shipyard and the Hunters Point population. This study charts the rise and fall of the shipyard, consistently an essential fixture in the community's economy and development.

The story of Hunters Point is told through the voices -- the living memory -- of its residents, those who lived in the community during the critical period and whose lives were closely tied to the historical development of the district. Interviewees are referenced by name in the text and are fully identified in the appendix. These primary sources, oral interviews conducted in 1995, are complemented by background archival, documentary, demographic, and historical research, which puts the accounts of individual men and women in the social and political context of the times they witnessed.

The report is organized chronologically. The first section provides a broad historical context, from the earliest European and Chinese settlements through the pre-1941 prelude to development. Next, the study closely examines Hunters Point's critical wartime expansion and dramatic demographic shifts. Several periods of postwar transformation are then explored, including an investigation of the shipyard's decline and the accompanying decline in the quality of economic life for the Hunters Point community. The concluding sections detail the community's emerging responses to these issues. The study concludes with an examination of the current status of the district as a community without a shipyard, with high unemployment and multifaceted community efforts designed to cure its social and economic problems.

One purpose of this document is the preservation of a cultural record which may survive time and change. In examining the history of the

Hunters Point region, it is important to keep in mind the diversity and resilience of the community. To survive the past half-century, the residents of Hunters Point have had to face many challenges.

For simplicity, the region being discussed is referred to herein as Hunters Point. This name refers to the entire Bayview-Hunters Point District denoted by census tracts 230, 231, 232, 233, 234, 606, 608, and 609, or simply zip code 94124.

The Early Years

Until the rise of its maritime trade, the sparsely populated area of Hunters Point attracted scattered settlements of Europeans, mostly Maltese and Italian, who gathered along the bay in fishing communities in the eighteenth and nineteenth centuries. Chinese shrimp camps began to form as early as 1871. By the 1930s twelve shrimp camps dotted the bay. It was then common to see along what is now Hunters Point boats, junks, nets, large kettles for boiling shrimp, baskets for hauling, and the catch drying on sloping piers.

The Chinese shrimping industry continued until the end of the 1940s, when a combination of discriminatory legislation, bay fill, diversion of water to Los Angeles, real estate speculation, and pollution led to the decline of many Chinese-owned fishing businesses in South Bayshore. The latest known Chinese shrimp industry is the Hunters Point Shrimp Company, which opened in 1946, closed in 1960, and was located in the South Bayshore area outside the project site.

The golden age of the American merchant marine in the 1850s witnessed the maritime development of the long Hunters Point promontory extending 6,000 feet into the deep waters of the south San Francisco Bay. This serpentine point, 2,000 feet wide and 290 feet high, soon became the site for a thriving shipbuilding trade at the graved dry dock of the California Dry Dock Company. A new dry dock, completed in 1903, was the largest then in existence on the West Coast. Boasting shipwrights and boatwrights of outstanding skill, the Hunters Point maritime industry flourished.

Early residences developed slowly as the local economies emerged. By the 1930s, Hunters Point had more than a hundred homes, along with restaurants, saloons, lodging houses, and farms -- to accommodate as many as a few thousand residents. Bethlehem Steel's development of the shipyard added economic opportunity to the scenic attraction of the area. With this improved economic base, a steady supply of residents began to call the district home.

Prelude to Development

By the 1930s, San Francisco recognized Hunters Point as a separate district, yet in many regards overlooked it. It was geographically separated from the rest of the peninsula by its hills and extreme exposure to the San Francisco Bay. The Hunters Point community lacked public transportation to downtown San Francisco. In the late 1930s, the tightly knit group of citizens began to band together in the hope of improving transportation and other neighborhood conditions.

The sense of isolation created by geography and relative underdevelopment gave rise to the Hunters Point Improvement Association. Formed in 1939, the association sought to develop the district and to connect it to greater San Francisco, while offering access to the benefits of community living. Primary among the association's goals were improved transportation lines (specifically the completion and paving of Innes Avenue), the grading of streets, and the installation of underground sanitation systems in several sections of the district (*San Francisco Chronicle,* 15 Apr. 1939). Led by its president, local resident Lynn P. Hockensmith, the association tried to secure funds and attention from City government. Despite the success of organizing more than 50 residents, the group's pleas precipitated little action from Depression-beleaguered civic leaders. Funds for improvement had to wait until the realities of war demanded improvements in the infrastructure, but the association did effectively make its needs known to many. The organization lasted well into the 1940s as the district and the shipyard began to assume pivotal roles in the war effort.

By 1940, the Hunters Point community had become just that. Herman Lehrbach boasted in the *Chronicle* on December 19, 1940:

> Now at this date we can boast of a community: We have industries, we have small business firms, we have potential sites for many more, to say nothing of the unlimited home sites available....To date the district can boast of a large dry dock...several taverns, two stores, two boulevard cafes, a riding academy and several shrimp markets.

A well-publicized and successful venture undertaken by the prewar community had been the establishment in 1939 of a cooperative grocery store. Local resident Chester Winnigsted served as spokesperson for this business venture. It symbolized the community spirit and collective self-reliance of Hunters Point residents in solving their own problems -- qualities in which Hunters Point residents took pride. In this case, the two-mile walk to the nearest store prompted Winnigsted and his friends to form their own grocery store within the district. With five families as original members, the Hunters Point Cooperative Society developed. The cooperative operated a community-owned store from a member's home (*San Francisco Chronicle,* 18 Nov. 1939). By late 1939, the store was open to everyone in the community, and more than 30 families were members.

These efforts among members of the community to guide the development of their own small district generated only nominal improvement but demonstrate an important fact of Hunters Point life. From early on, the community faced extraordinary battles to gain simple improvements that came easily to other sectors of San Francisco. The 1940 U.S. Census attests that there were then more than 8,000 residents in Hunters Point, 98 percent of whom where White (a population that would diversify dramatically and burgeon to 38,025 by 1950). Despite their observable numbers, for Hunters Point residents, many essential needs were continually ignored.

At the heart of this problem was the outsider's impression of the district. The area tended in those days to be characterized in terms such as: "isolated district," "undeveloped view spots," and "badly in need" (*San Francisco Chronicle,* 15 Apr. 1939). While partially true, this stark depiction represented to many of the residents a distorted view of their district. A resident named Olga Giampaoli, writing as president of the Hunters Point Improvement Association for the *San Francisco Chronicle,* paints a more accurate portrait of her community. She marvels at its scenic beauty and the spirit of cooperation and dedication among its people: "Yet in spite of all this beauty and kindly people, there is one thing that I have never been able to understand, and that is why has a district such as ours been so utterly overlooked by our city fathers?" (*San Francisco Chronicle,* 5 Aug. 1941).

Black migrants to the area did not perceive it as an undeveloped wasteland but as a healthy and successful community:

> In the early '40s, here in Bay View-Hunters Point...even prior to the shipyard coming... this was an Italian community. They had two movie houses... a five and dime...streetcars coming up and down Third Street (Jackson, 1995).

A small, comfortable African American community had emerged in and near Hunters Point. Many had called the larger region home, at least temporarily, to work at the depot of the Southern Pacific Railroad located on Third Street and Townsend:

> The SP had two overnight trains, all Pullman...between here and Los Angeles. Then there were a lot of commuter trains going out of here...and they had porters on those trains. And they were all Black. Blacks were either porters, cooks, or waiters. And of course the Pullman Company employed a lot of [porters] for the sleeping cars and so a lot of those people

> lived over here on our side; they hung out generally around Third and Townsend (Fleming, 1995).

With Hunters Point at one end of their route, some Southern Pacific porters naturally settled permanently near the district. The African American population of San Francisco grew by 131 percent from 1910 to 1930, and an additional 26 percent between 1930 and 1940. (The Black population of Hunters Point continued to grow well after the war, as available housing beckoned newcomers restricted from most other sections of town.) Those who lived in Hunters Point were proud of their lifestyle and self-reliance -- a spirit that fostered community organizing and activism. While attempts made among locals in the late '30s and early '40s to develop and earn respect for the district did not result in significant improvement, they served to mobilize a community spirit.

Prior to the mass migrations of 1941-1945, a transformation was already taking place:

> I think there was a Black operated restaurant down there. There was a pool room in that part of town operated by Blacks and you'd see Blacks...on the sidewalk talking to one another...There were a few, not many, but a few (Fleming, 1995).

Events far beyond local control, such as the attack on Pearl Harbor and America's entry into World War II, would bring change to the community literally overnight. It grew from 8,000 Italians, Maltese, and Chinese residents in 1940 to a vastly more ethnically mixed community of more than 20,000 by 1945.

The War Years

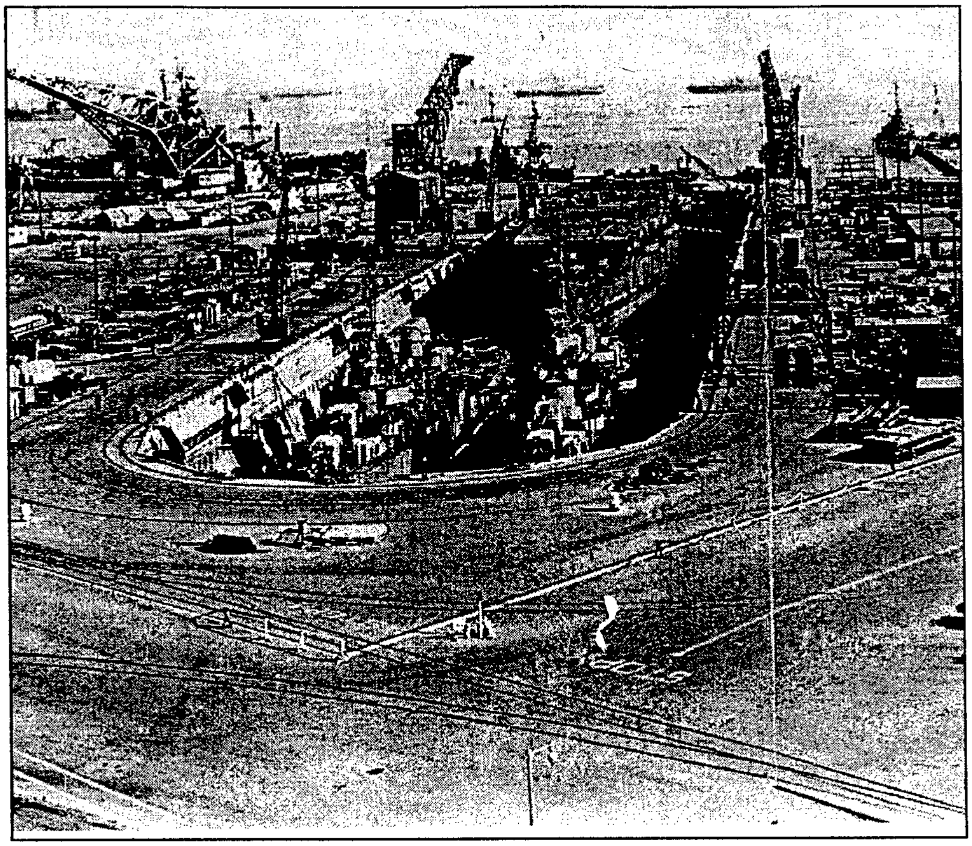
A Community Transformed

The Hunters Point community, which boasted three dry docks, small shipbuilding firms, taverns, stores, boulevard cafes, and shrimp markets in 1940, was transformed into a vital contributor to the war industry in the years following Pearl Harbor. The U.S. Navy's acquisition in 1940 of the Bethlehem Steel Dry Docks, which became Hunters Point Naval Shipyard, necessitated development of the district's infrastructure and the base itself.

Photograph 1 shows Dry Dock No. 4, an impressive ship repair facility and magnet of much media attention. The maritime traffic caused by the war can be seen in the background.

The paving of roads and the completion of sewer lines for which the community had fought fiercely in the prior decade were completed in the spring of 1941 (*San Francisco Chronicle*, 13 Mar. 1941). In addition, a bus line and cable car began service closer to the hills. Between 1939 and 1946, the Navy invested $87 million at the Hunters Point Naval Shipyard, including the completion of vast public works and ship building. Sixty buildings were constructed, 199 ships repaired, and over 12,000 units of housing built. Heavy construction to support six dry docks also occurred at Hunters Point. The most profound transformations, however, took the form of demographic changes brought on by the war's labor demands.

Faced with nationwide wartime labor shortages, the fully operating shipyard offered many opportunities for skilled and semi-skilled craftsmen, manual laborers, and apprentice blacksmiths, joiners, painters, coppersmiths, electricians, machinists, pipefitters, shipfitters, boilermakers, welders, and sheetmetal workers. In the early 1940s, California's booming war industries acted as a beacon for workers from all over the nation. Active recruitment was conducted to meet the demand. Federally funded relocation programs, under such auspices as the War Manpower Commission, recruited 15,000 to 16,000 Black workers to the Bay Area shipyards by 1943. In a mere three years, the number of Black families in San Francisco swelled from 2,000 to 12,000. The Hunters Point Naval Shipyard labor force swelled from 8,024 in 1943 to 18,235 in August 1945.



Wartime censorship lifted, the Navy today revealed the secrets of one of its largest installations, the HP repair yard which has been constantly enlarged since Pearl Harbor. The picture above shows Drydock No. 4, the world's largest and capable of handling any ship afloat including our new 45,000 ton super battleships.

Courtesy of the San Francisco History Room, San Francisco Main Library.

News spread by word of mouth across the Depression-strapped country. It became known that California and the Bay Area offered consistent work that could be easily secured. And the workers came:

> They were brought from the South and the Midwest; from all the gas stations that had mechanics to the machinists who were making farm implements...[they] were brought into the war effort by train into San Francisco. They were promised at the time jobs for any family members that qualified, and the family [was] moved by rail into the area and a house was supplied for them....So the Navy built many homes on top of the hill out here at Hunters Point (Brown, 1995).

Black migrants were influenced by letters and stories of family members, relatives, and friends -- the grapevine that had endured since the antebellum period. They came for jobs and found 4,000 family apartments and 7,500 dormitory units that were supplied by the National Housing Authority. The wartime migration of labor resulted in a major escalation of California's African American population. Because the typical standard of living in the South in the `30s was measurably lower for Blacks than for Whites, the jobs and promising conditions of California provided a strong migratory pull. One resident-businessman who came to San Francisco from Dallas in the '40s recalls that rampant discrimination motivated his westward migration:

> I was trying to get away from discrimination....It was just very common for people to treat you like you were dirt, so I wanted to get away... I heard so many wonderful things about California and the East Coast...[So I came to San Francisco.] I thought I'd wait until summer then go to New York, but it took me until summer to get a job. After I...saved up enough money to go to New York, I had fallen in love with San Francisco, so I said to heck with New York (Jordon, 1995).

Tom Fleming, editor of the *Sun Reporter*, the oldest African American newspaper in San Francisco, recalls: "All the war workers were from the South" (Fleming, 1995). And many of those war workers who migrated from the South brought family with them. One African American man from Tennessee followed his brother:

> I came to San Francisco....My brother lived over here [in Hunters Point] and he was in the army too...so finally I moved over here to the Hunters Point area. And I've been at Hunters Point ever since (Branner, 1995).

Many of these new Black residents settled close to the jobs, particularly near shipping industry jobs. In the East Bay, they settled in Richmond and Oakland, and in San Francisco at Hunters Point. Like other occupations requiring both manual and semi-skilled labor, the shipping industry had historically provided African Americans access to financial improvement and skill development. Hunters Point, possessing during World War II one of the three vital shipyards on the West Coast -- and the largest dry docks of the three -- greeted a new community of migrants. The existence of an already settled population of Blacks enhanced the attraction of the district for the wartime newcomers. Furthermore, the presence of the railroad depot meant that migrants from other parts of the country would frequently enter the city through Hunters Point.

The influx of new war workers further transformed fledging Black communities in Hunters Point and San Francisco:

> We could roughly say from about 1942...it really started expanding and it continued expanding until the end of the war (Fleming, 1995).

Lacking entertainment resources in their own neighborhood, Mr. Fleming recalls, Blacks from the community of Hunters Point began to frequent the Western Addition area of San Francisco. By 1945, emblematic of the demographical shift within the community, the first Black entertainment establishment appeared in Hunters Point.

Fleming recalls how Hunters Point grew: "There were only isolated residences out there [before the war], but most of it was commercial" (Fleming, 1995). The war changed the landscape permanently. The most profound physical example of the community's growth came in the form of housing for these new San Franciscans. Karl Kimbrough came to San Francisco in 1943 for both a home and a job at the Naval Shipyard in Hunters Point. He describes the development of housing for war workers in Hunters Point as follows:

> They built housing for people to come to work in the shipyard for the Navy. So the Navy rented a space to the Housing Authority to build housing and HUD [U. S. Department of Housing and Urban Development] built housing for the people because there was no place for them to live. The demands of the shipyard at that time, in 1943 to the 1960s, was to bring a lot of people [into] the State of California, to Mare Island and Hunters Point, and they had to have a place for them to live (Kimbrough, 1995).

When the workers came, "they were promised, at the time, the job...and homes were supplied for them" (Brown, 1995). Accordingly, the area was developed with housing complexes built by the Navy and managed by the San Francisco Housing Authority, a 5-member commission formed in 1938 by Mayor Rossi, headed during WWII by executive director, John W.

Beard. (The Authority permanently acquired this housing from the Navy for the city in 1953.) These barrack-style units, built quickly and cheaply, were designed to meet the extraordinary housing demands of those years. They were simple, standardized, and quickly filled. Although built as temporary shelter, most became permanent housing. One later occupant describes the utility of these units:

> I hate to use the word typical, but it's a project -- two bedrooms, and when you entered the front door of the house, you stepped into the kitchen, and about ten paces after you stepped out of the kitchen, you are into the family room (Perkins, 1995).

The media took interest in the opening of the new housing projects in 1943: "San Francisco's $10,000,000 war housing project at Hunters Point was dedicated yesterday...for the use of the community's war-swollen population" (*San Francisco Chronicle*, 25 Oct. 1943). It was the first of many housing projects erected in the ensuing years. By 1945, the Housing Authority, landlord to all the new tenants, oversaw 12,233 home units for the civilian workers flooding into the shipyard. By the end of the war, 300 additional units previously occupied by Navy personnel were also transferred to civilian use (*San Francisco Chronicle*, 1 Nov. 1945). Affordable and well-located, priority for this housing was given to the dry dock workers.

The development in these years was wholly determined by wartime necessity. As new workers flooded into Hunters Point, the area developed to meet the needs of the new population. It was a booming shipyard town. Residents recall that one of the effects of this quick development was a close-knit town: "Everybody knew everybody that worked on the yard; that lived in the area" (Kimbrough, 1995). While some of the 18,000 plus workers lived in other parts of the city, most people employed by the shipyard resided in Hunters Point. This functional relationship meant that citizens would not only work together, but also live together. Echoing Kimbrough's sentiments, resident and activist Espanola Jackson observes, simply, "The community was a family. Everybody knew everybody" (Jackson, 1995).

The Union Struggle

While nearly one-third of the new shipyard workers were African American, and the total African American Bay Area shipyard workforce had grown from 56 in 1940 to 16,000 in 1943, segregation persisted in employment for Hunters Point minorities. Of the 100 leading San Francisco industries, half employed no Black workers in 1944; 90 percent of Black workers were employed by 10 percent of the industries (Broussard, 150). These familiar economic realities were reflected in the composition of Bay Area shipyard unions, too.

The leading union representing a majority of California's shipyard employees at this time was the International Brotherhood of Boilermakers, Iron Shipbuilders and Helpers of America. Commonly known as the Boilermakers, this union represented 65 to 70 percent of West Coast shipyard workers, and its national membership grew from 28,609 in 1938 to 352,000 in 1943. It also rose to prominence within the Hunters Point Shipyard. Notorious for their power and influence by the 1940s, the Boilermakers refused to allow Black membership.

Tom Fleming and others tried their best to bring the employment monopoly to light:

> Old Jim Crow was present all the time. You had to investigate that all the time. I was working very closely with the NAACP investigating those things because we were trying to break the stranglehold that the Boilermakers had on jobs in war industries. The Boilermakers looked like they controlled most of the jobs pertaining to shipbuilding (Fleming, 1995).

Without union membership, many positions beyond manual labor became difficult for African Americans to secure. While President Roosevelt's 1941 Executive Order creating the Fair Employment Practices Commission sought to undo these restrictions, the unions found ways to circumvent fair practices. The jobs were advertised as open to all, but, as one Hunters Point local recalls, "when you went to the union [to get a membership card], you found out, no dice" (Fleming, 1995). The situation limited Black employment across the board: "[Blacks] couldn't get in the unions and San Francisco is a union town. That speaks for itself" (Kimbrough, 1995).

Hunters Point workers found a somewhat successful way around union exclusion. They organized themselves into in-yard unions, with the expressed support of the Navy. Karl Kimbrough was a Black member of the local electricians union, the IBEW Local 6 in San Francisco. He and other workers from within and without the other 11 unions represented in the shipyard formed the first Metal Trades Council:

> We were very successful in coming up with our unions inside the yard. This is one of the things that the Navy was not opposed to. When we reported to the shipyard commander [then Capt. W. L. Rawlings] what our intentions were they said, "Go for it." We had 48 percent Afro-Americans and we had Asians...Between all of them we had quite a few minorities. This way, they could become members of the union--legitimate members of the union (Kimbrough, 1995).

By organizing workers on site, Black Hunters Point workers bypassed outside union resistance and assured appropriate minority representation throughout the shipyard. Espanola Jackson describes the strong heritage of unionism in Hunters Point:

> This was a union town....I've never been in the union, but my mother was in the union, my father was in the union, all the people that came here...[were] union people, and they stuck together and made sure that they would work for the labor that they sweat for and be paid for it (Jackson, 1995).

Many historical analysts express a less sanguine view of the effect of the auxiliary shipyard unions. Generally relegated to inferior status, these so-called Jim Crow or auxiliary unions which evolved because of de jure segregation, carried numerous disadvantages. Not only were they denied voting privileges and many other benefits of normal union membership, but they could also be dissolved by the parent local at any time. Desegregated only months before the end of the war, the Boilermakers were powerless to prevent postwar layoffs that contributed to 15 percent unemployment among Blacks by 1948 (Broussard, p. 165).

Conclusion

Nonetheless, the employment created by World War II, which drew workers to the shipyard, and the affordable housing created to shelter those workers, combined to foster conditions that elevated the status of Hunters Point to a full-fledged community within San Francisco. The availability of shipyard employment for many thousands of Southern Blacks also created the first sizeable African American community within San Francisco's borders.

From 1940 to 1945, the African American population of San Francisco increased by 665.8 percent; from 1940 to 1950 by 904 percent, with a total in 1950 of 43,460 Black residents. According to the U. S. Census, the African American population of Hunters Point alone grew to 25 percent of the total Hunters Point population in 1950, to over 52 percent in 1960, and to over 79 percent in 1970.

Fleeing the racial and economic segregation of the South, many Blacks saw California and the war labor market as a chance for personal improvement. The movement of African Americans from the South to San Francisco continued long after the war ended:

> Although some discrimination continued in employment, housing, and public accommodations, the Black migrants' wartime status in San Francisco was a marked improvement over that of Blacks who had remained in the South. Small wonder that the majority of Black migrants remained in the San Francisco Bay Area after the war. For the first time in the city's

> history, white San Franciscans would have to adjust to a large Black community (Broussard, 142).

One woman recounts the slow but steady migration of her family from Alabama to San Francisco:

> My father's first cousin came out in the '40s, then my dad came out in the early '50s.... Then in 1955, my brother, my sister and I came. Then a couple years later my other brother and sister came [with] my mother" (Tatum, 1995).

Problems arose, however, and persisted for decades. These difficulties were in some ways a continuation of the isolation and limited transportation that marred life in earlier decades in Hunters Point. But these problems were exacerbated when African Americans became a majority among the Hunters Point residents. The community that was quickly molded during the war years and dependent on a war economy, was constrained by the end of the war. These problems are examined in the following section of this report.

The Postwar Period

The Shipyard During the Cold War

The end of the war in 1945 did not signal the end of the shipyard. Although the employment level dropped from its peak of 18,235 to 6,000 by 1949, employment levels remained relatively high as the Cold War transformed the yard for a peace-time military. With the Korean and Vietnam Wars and peak periods of peace-time development, work occasionally grew heavy.

Daily operations of the yard offered economic opportunities for nearly everyone who had received training:

> That's why the shipyard was so valuable...You had shipfitters, you needed welders, you needed sheetmetal workers, you needed boilermakers, you needed painters, pipefitters, electrical and electronics, and you needed quite a few machinists (Kimbrough, 1995).

With employment opportunities for temporary and more permanent craftsmen, the community continued to grow.

By news accounts of the day, by 1945, Hunters Point had a residential population of 20,000, of which a third were Black, although the U.S. Census give a 1950 population of 38,035, of which Blacks measure 25 percent.

During these postwar years, the shipyard also expanded its range of services from ship salvage to other kinds of ship repair. In 1948, the shipyard performed $31 million in ship repair. Since the size and capacity of the dry docks at Hunters Point were the largest on the West Coast, the shipyard was given responsibility for most of the work on ships and non-nuclear submarines. While the Mare Island facilities, handling most of the nuclear capable fleet, likewise achieved prominence, a strong "radioactive tradition" at the Hunters Point Shipyard dates to as early as 1945. Just prior to the end of the war in the Pacific, in July 1945, the first atomic bomb to be used in war -- called the "Fat Man" -- came through the shipyard to meet its transportation to the bomber Enola Gay, then stationed near Japan (Brown, 1995). Hunters Point nuclear readiness was supported by a separately functioning radioactive research lab located on the shipyard's grounds. Commonly known as the "Rad Lab," the U.S. Naval Radiological Defense Laboratory signaled the postwar advancement of the shipyard.

This was no assurance that the shipyard would remain functional. With 6,000 families occupying Hunters Point housing in 1948, and even with $31 million in ship repair, the first base closure scare came in 1949 when the federal government recommended the closing of the Hunters Point shipyard. At that time, the shipyard employed 6,000 civilian workers in addition to 4,000 to 6,500 Navy personnel. All tolled, the yard payroll in that year was estimated at $22,500,000 (*San Francisco Chronicle*, 7 Dec. 1949). Karl Kimbrough remembers the 1949 alarm:

> That was a fight between shipyards. That was between Hunters Point Naval Shipyard and Mare Island Naval Shipyard. Mare Island says that if Hunters Point continued on they would be taking over, but then [Mare Island] became nuclear and that's what saved them.

The City of San Francisco and the press joined the locals in the battle to keep Hunters Point open. As Kimbrough recalls, "As long as Hunters Point stayed open, the community was totally involved." The employment benefits to the city as a whole, represented by the permanent fixtures of the yard and the journeymen craftsmen who found temporary employment there, catalyzed all City leaders into protesting the closing. After City delegations were sent to Washington, rallies were held by the workers on the yard, union outcries of patriotism were voiced (*San Francisco Chronicle*, 13 Dec. 1949) and support was given from the entire Board of Supervisors, the government finally agreed to maintain the shipyard. The shipyard -- a vital component of the City's industrial base -- was of vital interest beyond the borders of the Hunters Point community.

The New Postwar Community

The presence of Black workers in the shipping and rail industry made Hunters Point an amenable home for many Black newcomers. As Blacks ventured into other parts of the city, however, they found the city was very segregated and met with resistance and restrictive housing codes and deeds. The Housing Authority therefore made an effort to offer much of the available project housing in the hills to Blacks.

Jessie Banks came from Louisiana to San Francisco as a result of the war and to Hunters Point because of the housing:

> Black people were having a hard time trying to get somewhere to stay, so the City decided to open [the projects] up and let the Black people come in there and live. So they sent word around where you were living that you can come to Hunters Point and that's where you can have plenty of room and opportunities (Banks, 1995).

As the wartime workers migrated out of Hunters Point or permanently settled in its single-family homes, new Black migrants kept the Hunters Point projects filled. In a city where many structures dated to the turn of the century, this new and affordable housing was a welcomed addition. When new, the project housing facilities on the scenic Hunters Point hillsides were regarded as attractive to many residents. Carol Tatum remembers the projects she occupied:

> Most people had a view, particularly up on that hill. There is almost a view from every angle....Everything was clean. It was well-tended by the San Francisco Housing Authority at that time. They had yard people that went around and cleaned up. There was no garbage outside...There was no graffiti. That was just unheard of. So it was a well-tended place (Tatum, 1995).

Not all newcomers to the area, however, were living in such well-tended housing. Carol Tatum also remembers the projects built to meet the initial war boom. While still standing, they were no longer occupied by Navy families. This "Army...barrack-type housing...had been evacuated by... [Navy] people and that was used for mainly African Americans who migrated from the South to work" (Tatum, 1995).

Espanola Jackson describes the housing into which she and her family moved in the late 1940s:

> During that time we did have electric lights, but we didn't have ice boxes, so the iceman came....And a lot of people had to make boxes and put them in their windows at night so the food wouldn't spoil....I don't believe that full electricity came in

> where you could have a washer or dryer until the '50s and '60s, but [in] the '40s you just did not have that (Jackson, 1995).

Another Hunters Point resident, Steve Arcelona, distinguishes between the condition of the new project housing and the old. "These were the older projects, the ones that were used during the war. I mean they were really the cracker box things" (Arcelona, 1995).

The disparity among the different projects encouraged many to move from project to project. Ira Crooney came to the projects in the early postwar period. While he and his family moved, he recalls, they never moved far:

> We moved from one [project] to another. Whenever we'd find something better, we'd move to that one. But we still stayed around here on the Hunters Point hill (Crooney, 1995).

Most of the people coming to Hunters Point were both from the South and Black. Then a child, Lavone King recalls: "I thought everybody came from Alabama and Texas...and Tennessee" (King, 1995). This rise in the Southern Black population created a community much like the close-knit one that had preceded it.

Espanola Jackson and her family came in the 1940s from Texas to what seemed to her a transplanted Southern commune:

> During this particular time, everybody helped each other. It was like a village, like in Texas and the South, when if you run out of something you could always go next door and get a cup of sugar, go to another door, get a cup of flour. You didn't want to get everything from one neighbor. So you'd just go all around and you could have a meal (Jackson, 1995).

Lavone King remembers learning to cook at the home of a neighbor, a mother of eight who dressed her hair for her graduation: "It was a very homey feeling. I felt very wonderful in that community" (King, 1995). This may reflect not only the form of community closeness that had prevailed in the prewar years, but a very persistent Southern quality as well.

The strong sense of community in postwar Hunters Point was reflected in its public celebrations as well. June 19, known as "Juneteenth Day," commemorates emancipation in Texas. Due to the distance between Washington D.C. and Texas, word of emancipation did not reach Texan Blacks until June 19, much later than other slaves. To the many new Black arrivals from Texas, "Juneteenth" became a time for celebration at Hunters Point as well:

> [It] was celebrated by everyone; cooking, barbecuing, and just coming together and talking about the old times and doing little play things with the children. We would watch the old folks pick the guitar, and they would just enjoy themselves. It was just a day of being together and being a family with everyone" (Jackson, 1995).

Despite the growing African American population in Hunters Point, this was a diverse community. In the housing project Jessie Banks occupied, "there [were] soldiers, civilians, Navy personnel, a whole mix. 'Cause see--the Whites and the Blacks...their job was to work at this shipyard and that's why they had them there" (Banks, 1995).
In Photograph 2, a diverse group of men enjoy free time on the shipyard. Work brought all of Hunters Point's people together.

Housing Highs and Woes

One of the persistent problems plaguing the community in the postwar period was the battle between the residents and the San Francisco Housing Authority, landlord to more than 12,000 residents. While the newer projects were well maintained, older buildings, originally built only to survive the war, were not. By the mid-1950s, the community believed that it needed more than these aged, shabby barracks. The first challenge to the Housing Authority came in 1954.

That year Gene K. Walker and other community project dwellers organized the Hunters Point Project Committee to try to achieve improvements in their neighborhood (*San Francisco Chronicle*, 20 May 1954). Developed quickly and unconventionally, Hunters Point lacked many of the standard amenities of community living that were funded elsewhere. It was an area of dense housing without adequate transportation, recreation, or aesthetic appeal.

The Hunters Point Project Committee felt that the City, profiting from project rents, owed the community the same sorts of resources enjoyed in other segments of town. The Project Committee's goal was to obtain $12,000 from the City to redevelop the community's theater as a recreation department.

In response to the demands of the Project Committee, the Housing Authority announced plans to release a former Army gymnasium for use by the community. A place to play basketball during the afternoon was far less than the community needed. Project Committee President Walker responded: "[We] favor a neighborhood community center for the entire family, not just a tennis-shoe gymnasium for part-time play" (*San Francisco Chronicle*, 28 May 1954).

The conflict revolved around more than the quest for recreation. At stake was community respect. The Project Committee believed that the Housing Authority lacked the right to dictate which social services the district would enjoy and appealed to the Mayor's office. The Committee obtained the services of a nationally known social worker, Margaret Berry, to determine their needs and sought the respect other districts in town were paid. By the end of the year, however, the former military gymnasium remained the sole public amenity in the area. City government, unwilling to compel the Authority to act, denied the request for funds.

This effort among the populace of the hills of Hunters Point coincided with increasing residential development of the lower (Bayview) area -- the community around Third Street. Although single-family residences were not uncommon in this section before the war, the wartime housing boom prompted further development along Third Street. Karl Kimbrough moved into a home in this developing section in 1943. After the war, primarily in the 1950s, noticeable growth in the housing stock occurred.

Steve Arcelona, current president of the Private Industry Council and an early Hunters Point resident, moved with his family in 1953 to a house that had been moved from another area of the city to the lower Hunters Point area. They found themselves in an area slated for serious change: "There were a lot of empty lots. The projects were right above us," Arcelona remembers. "Then there were the slaughterhouses and the auto wreckers and there was also a lot of fishing going on there" (Arcelona, 1995). It was an area commonly known as Butcher Town, with light industry and five slaughterhouses. Arcelona recalls that on hot days "the stench from the slaughterhouses was something that was part of living in the Hunters Point-Bayview area" (Arcelona, 1995).

The character of Butcher Town, however, was quickly changing with the addition of the Arcelona home and other private homes. In time, only the name and faint smells remained as evidence that slaughterhouses once dominated the area. Sam Jordon, a local businessman and resident, remembers that by the early '60s "community pressure" had forced the slaughterhouses to leave (Jordon, 1995). The district was becoming increasingly residential. "It was exciting...to watch all the empty lots get developed. All of a sudden, it was like the area started getting developed" (Arcelona, 1995).

Both Tom Fleming and Espanola Jackson observe that Butcher Town, as it had originally been, started to fade in the `40s. Tom Fleming states:

> [After the war], Butcher Town was just about gone then because they had all those emergency housing [units] they put up for the war workers....Some of the people were very progressive.

After lunch -- It's either volleyball, softball or baseball for many of their workmen after they finish eating lunch and before the whistle blows that sends them back to their jobs aboard ship or in one of the many shops. In background is the dominating world's largest crane, big enough to lift battleship turrets.

Courtesy of the San Francisco History Room, San Francisco Main Library.

They bought... private homes over there in Butcher Town (Fleming, 1995).

Jackson states that the influx of Black war workers forced the departure of the Italian community that had populated Butcher Town:

> [T]hen in the '40s Black people started buying homes in this area. As Blacks would buy homes, they would call it 'blockbusting' in the '40s and '50s -- to get the Italians out of the community....The house that I owned [had been occupied by] an old Italian couple that had retired. They moved out, so this area became mostly Black people (Jackson, 1995).

The development of this second area offered many in the projects and elsewhere in the city chances for residential mobility. Jessie Banks explains:

> They said we could move out here and they was going to build schools out here, they was going to build swimming pools, they was going to do all this. I said, "Hell, that's the place for me." And we were going to be able to get brand new homes, get them cheap and everything. I said, "I'm going out there to Hunters Point..."(Banks, 1995).

Even today, many in Hunters Point regard the level of home ownership as one of the district's primary distinctions. Ownership helped create a diversified and settled population in the community, in contrast to the more transitory nature of project residence:

> [T]his community has 52 percent homeowners and most of those are Black people. We don't buy, speculate, and move and rent. We are stationary. So this community is built on mostly people from Texas and Louisiana (Jackson, 1995).

Postwar Businesses Come to Hunters Point

Accompanying this residential upsurge and the flow of workers into the shipyard via Third Street was the development of small businesses. Steve Arcelona, whose family moved to the area in the early 1950s, describes the Third Street corridor:

> ....[V]ery alive. There were a couple of grocery stores -- all of them seemingly doing well. There were a couple of drug stores. There were, I think, a couple of high-end liquor stores, a dry cleaners. All of it in that corridor (Arcelona, 1995).

Sam Jordon opened his own business in the Third Street corridor in 1958. Although he was "never...a drinker," he opened a bar to better serve the Black community of the area. "[There were] so few places people could go to get a drink," he recalls. "The few bars out here weren't for Black folk" (Jordon, 1995). Jordon's bar, which later expanded into a catering service, epitomized the ideal of successful local business ownership.

There was also a growing recognition, however, that Blacks in the community were not adequately engaged by local business institutions. Omer Mixon came to the area in the 1940s and remembers racial prejudice; instead of walking into a bar with his Mexican friend, Mixon recalls:

> My buddy went on over there and was there waiting for me. Now I done been in there before. But we went in together. But this time I'm coming in after him. I sit down and order a beer and [they tell me] they don't serve Blacks in here (Mixon, 1995).

Only businesses like Sam Jordon's bar provided local social opportunities for the Black community within Hunters Point. Growing up in the community during this period, Espanola Jackson and her friends frequently had to leave Hunters Point for recreation: "You had to go all the way over to Fillmore, what we call now Western Addition." This movement between the Fillmore and Hunters Point was common in those days among the Black community. Jackson continues,"[B]ecause most Blacks that left the Fillmore moved here to Hunters Point, so then we always went back to Fillmore" (Jackson, 1995).

As the slaughterhouses left Hunters Point, other small businesses began coming into the area. Sam Jordon recalls a furniture store, shoe store, and jewelry store in the vicinity of his bar. Al Perkins remembers that there were also social groups that ran clubs. Steve Arcelona frequented a theater popular with kids and a very successful auto wrecking shop. Third Street was the ideal location for most of these small ventures because it also acted as the main thoroughfare for shipyard workers entering and leaving the area.

Very little useful commerce was developing on the hill, however, nor were the basic commercial needs of the community being met by Third Street businesses. Business development in Hunters Point at that time tended to cater more to the worker who traveled through the area than to the permanent resident. "Everything was on Third Street -- what little they had" (Womack, 1995). That little did not include affordable food shopping. Small grocery stores with exorbitant prices were the norm. Lavone King recalls a friend alerting her and her neighbors:

> We'd go to the same grocery store that was overpriced. We had no knowledge of that. She made us aware and stirred up our

pure minds. We were just kind of buying diapers and getting formula and cooking dinner for our husbands... (King, 1995).

Pat Womack, an early resident in the projects, remembers, "We had to go to Mission and shop. We had to go downtown or crosstown because there weren't shopping centers down there" (Womack, 1995). In addition to inadequate local commerce, the problem of poor transportation continued to frustrate the Hunters Point community. Many residents at that time recall how difficult it was for them to get around the area to conduct business. Pat Womack states, "When I first came [to Hunters Point] I liked the area [but] I didn't like the inconvenience" (Womack, 1995). Steve Arcelona explains, "You probably had to take three buses to get from [Hunters Point] to San Francisco" (Arcelona, 1995).

Lavone King describes how much walking one had to do to get to the stores in the area:

> In the area where we were...we had to walk to the store. There was nothing immediate except farther down the hill, on what was called Hilltop, there was a supermarket, and then that closed down....And then we had to walk down the hill toward the shipyard to get to the stores that were in that area (King, 1995).

Poor transportation services affected not only shopping and daily business activities in Hunters Point, but also children who went to school. Carol Tatum describes how her only mode of transportation was the public bus: "You had bus fare. I mean, you had to have it because you had to go to school on the bus. And they didn't have bus tickets....The schools were too far to walk" (Tatum, 1995). Other school children could only reach their schools by taxicab.

Photograph 3 shows a cab the Board of Education rented to transport children. Inadequate transportation was a problem for both young and old in Hunters Point.

By the late 1950s, the community's past successes began to fade. Such achievements as the creation of a local affordable grocery co-op had been the means by which the community fended for themselves, but they eventually failed: "Oh, yes, there was a supermarket on Third and Powell called Co-Op...but eventually that type of store closed down, no money" (Perkins, 1995).

Conclusion

Two elements characterized Hunters Point in the years following the war: One was the continued importance of the shipyard in employing Hunters Point residents, which generated a continuous flow of new residents.

Affordable housing and established community further enhanced the attraction of the district for newcomers to the city. The second element, rooted in the past, was the transportation and commerce shortfall. In the next decade, those problems dominated the landscape of Hunters Point.

Youngsters who live on Hunters Point are taken to and from Irving M. Scott School by taxis hired by Board of Education. Mr. Fixit thinks a bus line, to serve youngsters and adults, might be a better idea. He hopes readers will write in their opinions.

Courtesy of the San Francisco History Room, San Francisco Main Library.

The Sixties

Many Separate Communities

As the Hunters Point community entered the `60s, disparities among groups living in the district grew. The perception of many in the area was marked by a disparity between Navy personnel and the community at large -- a once symbiotic relationship now described by one outside observer as "antagonistic" (Elton, 1995). For many in the community, despite the employment opportunities the shipyard provided, it was simply a separate place. Lavone King observes, "[F]or me going to the shipyard was like going downtown, like exciting -- oh, I get to go to the shipyard" (King, 1995). Albert Perkins, who moved with his family in 1956 to a housing project built during the war, found that Navy personnel never tried to fit into the community:

> Remember, I said I lived in project housing, and there was also project housing for the Navy. There was a fence between the public housing where I lived and the Navy personnel that actually lived on the base, worked for the Navy....A big fence (Perkins, 1995).

Lavone King echoes this sentiment: "They had their own little city within the city" (King, 1995).

Sam Jordon also perceived a distance between the Hunters Point civilian community and the Navy personnel. In his business, he encountered "very few [Navy personnel]. I met a lot of them and they'd been warned about coming out on Third Street. [They] told them, 'Don't go to Hunters Point'" (Jordon, 1995).

Hunters Point was gaining a reputation as a primarily Black and unsafe part of town. As Jordon observes, the crime rate may have been the same as other parts of the city, but, "when a Black person commits a crime it's thought of a little differently than someone else" (Jordon, 1995).

Espanola Jackson notes that the district was supported solely by the community, not by the Navy.

> They had jitneys at that time and the sailors would get in on the base and they would go downtown. They did not make a left turn to come into where our area is; they would make a right turn to go downtown. So the Navy was not contributing to the neighborhood. It was the residents that actually lived in this area that was doing the shopping and the buying, and then in the '40s Black people started buying homes in this area (Jackson, 1995).

Carol Tatum recounts, "I never even saw any personnel in uniform on Third Street" (Tatum, 1995).

For others who lived in single-family dwellings off the hill, however, seeing and playing with Navy families was a daily occurrence. Steve Arcelona remembers:

> I also recollect some of the kids who went to elementary school with me...were from the Naval Shipyard. These were like kids and families who were from the Naval personnel (Arcelona, 1995).

Omer Mixon lived near some servicemen: "A couple of my neighbors was service guys and they raised up their families next to me" (Mixon, 1995). Omer Mixon also played baseball with both civilians and Naval personnel. For a time in the `50s the Navy actually sponsored his team, but "they didn't fraternize[e] with civilians as much in the `60s....They didn't sponsor anymore. They figured you should be off on your own" (Mixon, 1995).

The amount of contact local civilians had with the Navy undoubtedly varied among individual residents, yet the overwhelming consensus of long-time residents of Hunters Point is that Navy personnel rarely became a visible part of the community after WWII.

Another division within the community, slower in emerging yet present by the end of the 1960s, was between those living on the hill in the projects and those living in the single-family residences. Albert Perkins hints at the separation: "Away from this area [on the hill that was called 'Hunters Point'], three or four blocks away from this area, you get into another area which was predominantly called Bayview." Carol Tatum echoes the distinction: "There's Bayview-Hunters Point. The Bayview part is the part where the people owned the houses. The Hunters Point part is the hill that used to be all public housing" (Tatum, 1995).

Those who lived in the projects on the hill, or Hunters Point, found themselves at a disadvantage because of the inaccessibility of transportation and shopping. Lacking business, single-family homes, and transportation lines, and at a distance from the Third Street corridor, life on the hill developed a sense of separation from the rest of the district. Lavone King comments:

> They felt like it was isolated. Like I said, there were no stores around, everything was at a distance. ...[I]f you were in the Western Addition you could walk down the street to the barbershop, you could go to the store; there were things all around you. But it wasn't true in the case of the Hunters Point area (King, 1995).

Sometimes living in the projects could be socially difficult for school children.

> Nobody said anything in elementary [school] because we all lived in the projects; we were right there at the school. But when I got in junior high there were children from private housing, and one day somebody said, "Oh, you guys live in the projects." And...the teacher said, "Well, no." He stopped everyone in the class and got everyone's attention and he said, "If you live in a tree that's your home....So don't ever talk about where someone lives" (King, 1995).

For those who lived in the Bayview area down from the hill, the separation was not apparent in the early part of the decade. "A lot of my friends that I went to school with lived in the projects, and it was very mixed" (Arcelona, 1995). As a child, Arcelona, from Bayview, remembered playing on the hills, at friends homes, or in empty parcels of land. Still, the hilltop acquired a different image in the minds of many: "I remember at that time people [there] being poor. As I look back now, I guess I could be considered poor [too]" (Arcelona, 1995).

A Community of Diversity

In the 1950s and 1960s, the community living in single- family dwellings was still very ethnically mixed. Steve Arcelona recalls the diversity of his neighborhood in Bayview: "I do remember the area again being very mixed, especially the owners of the houses -- Mexicans, Filipinos, Chinese, African American, very mixed" (Arcelona, 1995). The community was also very close:

> There were always a lot of kids in the neighborhood...It would be something where you would be over at somebody's house and the mother or father would just call out into the street....We'd go over to people's houses and we'd eat together (Arcelona, 1995).

In the Bayview-Hunters Point of the 1950s and 1960s, the youth were frequently engaged in many different activities. "We went to the gym and played basketball and we went to dances and we went to fashion shows. And there was a movie theater on Third Street, so we used to go to the movies. We went to the library a lot" (Tatum, 1995). As a parent, Ira Crooney knew his children could keep busy: "They had all these parks they could go to. They could play [sports], all that stuff. And they had the gymnasium here at the time" (Crooney, 1995). The community also had Camp Fire Girls, Girl Scouts, and Boy Scouts. As the population of young people grew, common social institutions also grew.

Many after-school activities were provided by various community organizations, and these activities greatly affected the lives of young residents like Arcelona:

> I remember the "Rec and Park" had a very big presence at my elementary school and the after-school activities were sponsored and run by the "Rec and Park". I was a member of the Cub Scouts....[W]hen I was a teenager [I remember] joining the Teen Club at All Hollows Church and doing activities with them. There was a time when I actually was a member of Cameron House [which] still exists here in Chinatown...Then when I was in junior high and high school I got a job at the grocery store and all of my spare time outside of school...I spent working for the grocery store (Arcelona, 1995).

The children on the streets had their own baseball teams. One street, such as Innes or Hudson, would play against another. A member of the Blue Diamonds of Innes, Arcelona remembers "These were very healthy activities" (Arcelona, 1995). He also remembers contests sponsored by the local five and dime. Al Perkins recalls many afternoon when he would go "up on the hill and play[ing] basketball" (Perkins, 1995). The youth of the community found themselves engaged in very typical activities.

In the 1950s and early 1960s, drugs did not play a large part in the lives of the young people of Hunters Point. As Espanola Jackson states, "[W]e didn't have the drugs then. We only got the drugs in Bayview-Hunters Point in the late `60s and early `70s. And they're coming in stronger" (Jackson, 1995). Another resident, Carol Tatum, corroborates that drugs did not become prevalent in Hunters Point until after the 1966 riots and the 1974 closure of the shipyard:

> After the riots the influx of drugs [happened]....It was gradual. I would say over what felt like a ten-year period, from 1966 to 1976, there was a drastic change. By the time the shipyard got ready to close...some of the young people out here got involved in the sale and the use of drugs (Tatum, 1995).

Before the upheaval of the `60s and the unemployment caused by the shipyard's closure, Pat Womack recalls that the Hunters Point community was close-knit: "[P]eople in Hunters Point were large families, caring families, people who migrated with other people which brought other people into the community" (Womack, 1995). The common background and common economic status among local residents fostered a sense of community. Encountering common problems of urban life, the quality of cohesion deepened: "The community has always been close-knit in trying to do what they could for Hunters Point -- to save it, to make it better, to keep jobs in the area...and they're still trying" (Womack, 1995).

Employment Expectations

During the `60s, many in the community still counted on the shipyard for employment. Arcelona remembers that "as I was growing up...my buddies would talk about getting a job in the Naval Shipyard. There was no question that the blue collar trades were still very healthy" (Arcelona, 1995). He recalls that two sons of a shipyard employee, who aspired to work there when they were youths, were hired according to plan straight after high school: "There was just no question that they could get a job there" (Arcelona, 1995).

The disparity of perceptions between residents of the single-family dwellings in Bayview and the projects on the hill is reflected in Al Perkins' view of the shipyard and its relationship to the community:

> Truthfully speaking, from what I can see, there was no relationship. The only relationship that one could say was existing was the fact that some people who lived in those projects worked in the shipyard.

He believes the shipyard was primarily an employer for outsiders:

> ...[W]hen I lived there, there was a tremendous number of people driving from other neighborhoods to go into the shipyard, and very few people from Hunters Point worked on the shipyard (Perkins, 1995).

Pat Womack knew shipyard workers yet recalls that local work was not abundant: "There wasn't that much to do [for work] around Hunters Point" (Womack, 1995). Sam Jordon saw that "there were businesses coming in but they were not benefiting the average person here" (Jordon, 1995). Echoing the differing experiences of Bayview and Hunters Point residents, while Steve Arcelona found employment at the local La Salle grocery store, Al Perkins found his first job a bus-ride away in the Fillmore District. Light industries provided some employment for the Hunters Point area. Women could find employment making toothbrushes, packing seafood, or working in the canning industry (Arcelona, 1995). But work opportunities were declining.

The simple fact was that the number of permanent employees at the shipyard was gradually decreasing. Ira Crooney recounts how the decrease affected employment opportunities for many of the younger people:

> Wasn't nobody getting a job but the old-timers. Weren't that many jobs. See, [with] the old-timers they didn't have to train nobody; they got somebody already experienced. And the

experienced workers had all the jobs at that time (Crooney, 1995).

Regardless of the slow downturn, those Hunters Point residents who were able to get on at the shipyard found great opportunity. Many progressed steadily:

> It really paid off for the minority workers because they started out as helpers, a lot of them. And then the time went on, they went from helper to mechanics. And then, from mechanics they went on to leading men. That was a supervisor's position. And then from that, we even had a couple of shop heads (Kimbrough, 1995).

The shipyard remained the most visible employer in Hunters Point, but as the Cold War leveled off, even that began to turn. Karl Kimbrough, who was working at the shipyard in the later years, saw a decline in numbers in the workforce after the Korean war. The shipyard went from a Korean War peak of 10,000 to less than 7,500. There was a further decline in those numbers until its closing in 1974.

Photograph 4 shows the excitement present at Hunters Point when the shipyard workers learned the shipyard would remain open. Ten years later, however, the shipyard workers would be unemployed.

A tension developed in the community due to dwindling job opportunities and the hope of work that the shipyard provided. Arcelona describes the glimmer of hope: "To think back about getting a job, right there....To think you could have that light at the end of the tunnel" (Arcelona, 1995).

Churches of Hunters Point

Throughout its history the church has played an undeniably important role in the community. One resident summarizes it, "Hunters Point is church" (Womack, 1995). The advent of church edifices was gradual, partly due to the lack of money and space in the early years. Some early ministers held church services in the storefronts on Third Street and in their homes. Tom Fleming recalls the growth of Black churches:

> Some of the more enterprising ministers were probably holding them in their homes...Looked like Whites were moving out, too. Where there had been a White church, they'd buy that and hold their services in that (Fleming, 1995).

Another resident emphasizes the vital community role played by the church in the Hunters Point of the 1960s:

Good News Gets a hats-in-the-air reception here. Workers respond enthusiastically to word that Hunters Point Shipyard will stay open.

Courtesy of the San Francisco History Room, San Francisco Main Library.

> The community was pretty much determined by the leadership in the church....so therefore, there was no need for or no requirement for the Navy or anyone else to do anything. People went to church. [There was] no political process, no concern about political process (Perkins, 1995).

The churches of Hunters Point were viewed by many residents as the primary locus of leadership. Karl Kimbrough conducted community outreach efforts for the shipyard in its later years. To find out what was needed, he went directly to the church. He would gather the four or five ministers who were also employees of the yard and would ask, "Well, from your contacts and from your church...find out from them. What do they think would be the most help that the Navy could give?" (Kimbrough, 1995). That the shipyard chaplain led the outreach efforts prior to Kimbrough's community involvement presaged the long-term dedication of the church.

Despite the strong presence of the church in the Hunters Point community, there remain residents who questioned the church's efficacy in community improvement efforts. Some, like Sam Jordon, were disturbed by what they viewed as the hypocrisy of congregants: "[T]hat's where you'll find the biggest hypocrites, in the church....a lot of them drink more whiskey than I sell, that's what I'm saying about hypocrites" (Jordon, 1995).

While acknowledging that the churches had a strong presence, Tom Fleming doubts that they made substantive improvements. For him and others, the chasm between words and deeds fomented skepticism. "[The church leaders] take advantage of their power" (Jordon, 1995).

Ira Crooney suggests that "[The churches] should have done more for the community than they did. They had the power to cut a lot of the stuff that's going on right today. If they work together, they can do it" (Crooney, 1995). Omer Mixon saw cooperation as one key to better community action, but in his view the churches failed in that effort: "We figured at that time the most important part was to get the church[es] to work together, the others to follow. But that's where the breakdown was" (Mixon, 1995).

Ruby Payne has been a member of the Hunters Point Providence Baptist Church since 1969. In her view, shared by many involved in the churches, work was always being done, yet sometimes problems seemed insurmountable:

> The Church always had what they call outreach where they would go out into the area and try to talk to the people, and they would go from one corner and try to talk with some of those and then go to another corner and try to talk. But I don't know if it did any good (Payne, 1995).

For the Arcelona family and others, the Catholic Church was the primary institution in their lives. He remembers the priests from St. Paul's of Shipwrecks and All Hallows running schools and youth groups. For him, they represented a "big presence" in the community (Arcelona, 1995). For those affiliated with it, the Catholic Church provided a strong influence. Youth could join church-based groups. Sponsored activities necessitated involvement by Church members. And adults, lacking many other types of institutions, could congregate through the Church.

Until the pivotal year of 1966, the church represented the only agent of substantial organizing and change in the community. This preeminence was not only a function of the community's religious heritage and commitment; it also derived from the crisis of secular community leadership.

The Crisis of Leadership

Aside from the church, most agreed that community leadership -- that is, traditional leadership -- was lacking. Pat Womack identifies a "Big Five" group of "strong Black women who took a stand" (Womack, 1995). Espanola Jackson recognizes the same leadership:

> Eloise Westbrook -- she was the big voice in Bayview-Hunters Point. You had Mrs. Julia Colmer, Rosalie Williams, Ms. Freeman, and Oceola Washington. They were the Big Five and I tell people that we was the little bitty ones because we were following them. But Mrs. Westbrook was the woman I admired so (Jackson, 1995).

Eunice Elton, who worked within the community for over 30 years, also recognized Westbrook as a force in the community. She notes, however, that the persistent problem of the community was a "lack of male leadership" (Elton, 1995). This lack was often a problem in itself. "What we're trying to do in this community," Espanola Jackson says, "is push our men out in front" (Jackson, 1995).

Al Perkins saw the same void in the community: "The church was the only place that you heard someone raise a voice....And even those guys were fundamentally weak" (Perkins, 1995). The biggest problem Perkins identifies was a "lack of identity, poor leadership. I'm going to say poor leadership on a political basis, by the church, and truly the inability to come to some type of conclusion to deal with whatever resources the community had" (Perkins, 1995).

Many regarded and still regard Sam Jordon as a leader. His nickname among the residents is "The Mayor of Butcher Town" -- a title with which he takes issue: "What good is it to be called a leader if you can't get people to do for themselves?" (Jordon, 1995). For Jordon, the crisis was a lack of initiative to maintain and support Black-owned businesses. He tried to be vocal but feels as though "I'm left whistling in the wind." He laments, "To own businesses and support them, I never saw nobody work for that" (Jordon, 1995).

The lack of Black-owned businesses exacerbated the tension of locals at the seeming mercy of outside owners. Sam Jordon did not know the owners of the few businesses that surrounded him. Al Perkins remembers outsiders replacing outsiders: "There were a lot of little small stores run by Chinese or Arabs, who eventually bought out the White people who ran those pricey places" (Perkins, 1995). The void in leadership, especially leadership that encouraged business development and support, permitted economic development in Hunters Point to be led by business concerns beyond the local community.

In 1963, Sam Jordon did make an effort at improving community prospects. That year, he became the first African American to run for City Mayor. His progressive platform reflected the concerns of his community and most Black communities. He ran for a 30-hour work week to increase employment, better law enforcement, an end to police racism, equal representation in government, better schools, and, most importantly, better housing (Jordon, platform paper, 1963). Although he lost, he did bring many of the community's issues to the forefront.

The community's lack of effective leadership left it powerless to surmount the problems that surfaced in the community in the 1960s. Tom Fleming describes the biggest problems as "poor housing facilities and old Jim Crow was always present" (Fleming, 1995). According to Fleming, the housing projects were aged beyond endurance, yet the City had no problem renting them to a population of lower-income Blacks.

Hunters Point locals observed other problems. Al Perkins saw, "No desire. There was no nothing. I mean, the people worked everyday, came home, and that was it" (Perkins, 1995). As if to fill this emptiness, the mid-sixties also saw the birth of early gangs -- however benign by today's standards: "I mean the gangs at that time was at best a knife. Mostly fist fights and, you know, a lot of bluffing" (Perkins, 1955).

As tension was mounting, Bayview resident Steve Arcelona observes,

> [T]here came a point when you didn't hang out up on the hill unless you knew where you were going, unless you went up there during certain times of the day....[I remember] a gang of guys coming down from the hill and sort of meeting up with us and a lot of posturing going on and maybe a few punches getting thrown, but that was the extent of it...I never thought

about getting killed. I never thought about drugs (Arcelona, 1995).

Eventually, the situation worsened. By the late '60s, Arcelona remembers, "There came a point where you didn't hang out on the hill [anymore]" (Arcelona, 1995). The transformations within the neighborhood and the rising tensions came to a boiling point in 1966. That year began with increased community activism, saw a deadly community riot, and ended with a resurgence of hope.

1966 and Change

A Community Awakens

In the late 1960s, the will of the Hunters Point community to alter its situation from within resurfaced. In the tide of ideological change sweeping the Bay Area and the African American community nationwide at the time, a renewed activism infected even the youngest members of the district. The most vocal of this activism took the form of the first mass movement against the Housing Authority since the creation of the Hunters Point Improvement Project over a decade earlier.

By the late 60s, the housing units built as temporary wartime shelter from 1943 to 1945 had seriously deteriorated. Roach- and rat-infested, the structures were nearly dilapidated. Tenants, still under the purview of the City's Housing Authority, believed that the situation was not being adequately addressed. The crisis of unemployment and the lack of community improvement increased local dissatisfaction.

The Housing Authority's abrupt eviction in 1966 of 22-year old Ollie Wallace, his 2-year-old daughter, and his wife, for delinquency in paying rent, mobilized the community. Ollie Wallace, an unemployed maintenance worker, became a rallying point for other dissatisfied project dwellers for whom Wallace's plight served as a focus for community problems. As the community rose to Wallace's defense, mass sit-ins and protests against the Housing Authority Board of Directors resulted in the Wallace family being readmitted to their apartment and their furniture returned (*San Francisco Chronicle,* 9 Mar. 1966).

The battle was waged over much more than one family's rights. It galvanized the growing community activism. As witnessed by Wallace himself, quoted by the local press, "I didn't think there was that much unity among the Black men and women at Hunters Point" (*San Francisco Chronicle,* 9 Mar. 1966). Assisted by new community organizations and leaders such as Harold Brooks and his anti-poverty group, the community rallied for better treatment by the Authority and improved housing standards on the hill.

Enthusiasm spread. A mass effort was planned in conjunction with a Housing Authority meeting, where over 30 community members and leaders, having alerted the media, led a demonstration. The crowd shouted at auditors and blocked exits from the building, demanding that a list of complaints be addressed (*San Francisco Chronicle,* 10 Mar. 1966). One Authority commissioner attributed the uproar to the general climate of "living in revolutionary times," but the incident publicized harsh economic realities as well as a general sixties civil rights ethos enveloping the country.

It should be noted that this "ethos" was expressed by the efforts of President Johnson's War on Poverty, which by 1972 had brought $8.6 million into the Hunters Point community and had created block organizations for each neighborhood, local Economic Opportunity Councils (EOCs), Youth Opportunity Centers -- extensive new federal and local bureaucratic structures. This was accompanied in 1966 by what was measured by some accounts as a 15 to 25 percent unemployment rate among the 90 percent African American Hunters Point community. The Wallace demonstration was also accompanied that year by the NAACP's call for Black Monday in support of Black employment among construction unions. Local social awareness had already resulted in the City of San Francisco's enacting an ordinance prohibiting discrimination among companies and unions doing business with the City, but the restrictive housing covenants that more or less confined the transplanted African American population in WWII to the Hunters Point and Fillmore areas were slow to make way for integration.

The list of community demands was signed by representatives of new community groups. Among these groups were block clubs from each street on the hill, the Hunter's Point Parent Action Group, various ministries, and the regional Economic Opportunity Council. These groups combined to demand jobs, fair rent, improved infrastructure, and full economic and social enfranchisement.

Increasingly, the community was speaking up for itself and demanding to be heard. Most improvements were attributable to this effort. Lavone King recalls that new community leaders rose "from all of the disruptions and individuals raising hell saying, 'We're tired of living like this. You guys are giving all the other parts of the City money, and we get nothing and we want something'" (King, 1995).

Instead of waiting for help from the City, the community took action by using federal War on Poverty monies.. A new chapter of the Economic Opportunities Council (EOC) was created under the leadership of Dr. Arthur Coleman, a local physician. "Some of the projects under the EOC included day care, head start, legal assistance, summer youth programs, and a community credit union; all aimed at giving the poor self-determination" (*New Bayview*, 15 Feb. 1990). The EOC and Dr. Coleman became key players in a community striving for change.

In an attempt to train Black youth for jobs, the Youth for Service organization was begun in the same period. As one resident puts it,

> Youth for Service was one of those institutions that helped employ young people that otherwise would have been unemployable....They reached out for people who were willing

> to come forward and try to make a change in their lives (King, 1995).

Groups like this and Black Men for Action sought to improve the lives of the young in the community while instilling pride in their common ethnic heritage. By 1967, an Afro Pride Festival was held in the community every year (*San Francisco Chronicle,* 19 Oct. 1967).

In yet another instance of self-reliance, the community began the second co-op for affordable grocery shopping in 1965. The Hunters Point Food Cooperative lasted only six years but demonstrated the creativity and dedication of the people in improving their community. The events of 1966 brought an assortment of funds and figures into the struggling community. How they would respond was yet another challenge.

The Riot of 1966

The stage was set for a comprehensive movement by the community to take control of its district. No single event raised public awareness of the district among City and other government officials more than the disturbance that is now known as the "Riot of 1966."

The event began when a young man in the community was shot dead by police at a liquor store. A local recalls:

> [A] young man got killed in the Spotlight Liquor Store. They called him 'Frog'....[People were] angry because they felt this young man was killed unjustly. You know, he was somebody that everybody liked, he was a fun kind of young kid that liked to joke around and...they said that he was shot in the back. [People] felt that there was an injustice done in our community (King, 1995).

Tom Fleming, a community member who tried to stop the young people from rioting, also describes what he saw that day:

> We went out [on the streets] and the kids were excited as hell, and they were going to burn the damn town down....So we...called Jack Shelley, the mayor, and says, "We think that if you come out here and talk to these young kids this afternoon you might do some good." Well, Shelley refused to come out there....Then about three hours later we heard some kids were breaking out windows of stores down there, turning over cars and setting them on fire....So we went to the Potrero Hill Police Station. That was the command post. [There were] a couple of cars burning across the street from the police station even (Fleming, 1995).

Despite an abundance of detail, disagreement arose in the Hunters Point community about the magnitude of the event and whether it actually constituted a riot. The media made a major issue of the events of September 27, 1966, which many in the community considered overblown. Sam Jordon who was there during the disturbance, states adamantly, "I've never seen a riot" (Jordon, 1995). Tom Fleming attributes much of the sensation to police and media overreaction. There was very little damage around the Hunters Point area, yet the National Guard was called out in fear of a repeat of the events that had occurred in Watts the previous year:

> What we did [to protect the kids], we started driving around...If we'd see kids out on the street we'd say, "Get off the streets cause the National Guard is coming!" They'd shoot to kill....No sooner had we said that then here came a jeep....with two guardsmen and a 30-caliber machine gun mounted...(Fleming, 1995).

Whatever did occur, most remember the fear and confusion. For Steve Arcelona, the event underscored the deep depression within the projects, the isolation of the community, and the disenfranchisement of its ethnic residents:

> Whatever was happening there [in the projects] was not part of our world [down in Bayview]. The consciousness of what was happening there was not clear. Immediately afterward, "you could see the change...people moving out (Arcelona, 1995).

The community then found itself seemingly embraced by the sympathy of a liberal city: "People started to take notice" (Womack, 1995). What resulted was the most vibrant change and leadership in the community, even transcending the separation between the community and the shipyard. As a result of the riots, federal and City monies came flooding in for various aid programs. "That's where I first saw a lot of people trying to become leaders...who the spokespeople were and how they got to be the spokespeople, what their viewpoints were. You know, those were the things that kind of changed my opinion about the neighborhood" (Perkins, 1995).

After 1966, "Everybody was doing different things...trying to help other people get jobs....I got involved with the Bayview-Hunters Point Affirmative Action Program, the Bayview-Hunters Point Community Health Center, the Bayview Southeast Development Program" (Womack, 1995). Harold Brooks explained to a newspaper reporter that there was "no way to pinpoint any one responsible [for the activism]. What occurred out here are collective activities and concern a great number of people....At the time there was a lot of real community feeling about helping one another to make this work" (*New Bayview*, 22 Feb. 1990).

Amid the renewed drive from within and the influx of federal and local funds into the district, city organizations also began addressing the problems of unemployment in the community. One of these was the Private Industry Council (PIC) under the leadership of Eunice Elton. Elton came to San Francisco in the late `40s and became intensely involved in the Hunters Point community in the `60s. The PIC, funded by the Mayor's office as well as federal monies, began several training programs for youth and adults. While problems persisted, Elton observed that the community "learned how to be heard" (Elton, 1995).

Young and old became new members of diverse organizations. New leaders rose in the community -- Harold Brooks and his anti-poverty group, Adam Rogers and his various young men's employment associations, and Dr. Arthur Coleman. With these new leaders and many others, Hunters Point entered a new period in its history.

Dreams Deferred

Despite all the new activity, results came slowly. The hopes of the community rested on achieving decent housing and jobs for the massively unemployed migrants to the Hunters Point Shipyards, residents from the Fillmore and others seeking refuse from segregation and discrimination. While those hopes translated into good intentions and organizing, fundamental problems continued to plague Hunters Point. The various agencies were unprepared for the task at hand:

> It was very interesting. As a result of the riot, the Chamber of Commerce decided to get into the problem and help with the employment problem, and they were so naive. They went out on the radio and said to everybody, saying "Give us your job opening so the young people can be employed." Well, a job opening for a secretary has to be able to do this, this, this, this. The jobs that came in were jobs that nobody in the unemployment group was going to be able to qualify for (Elton, 1995).

Multi-agency programs did attempt to employ the population by offering job training opportunities. These programs often, however, assumed that the economy was open and businesses and government agencies would employ the trained workers. Fundamental issues of access needed to be addressed, "efforts to tackle the total problem rather than just the single problem of job skills" (Elton, 1995).

Pat Womack was active in various community organizations ranging from health care, with Dr. Coleman, to affirmative action concerns in the workplace. She, too, recognized the limitations of the new federal and municipal assistance:

> When you start requesting things that you need in your own area...then they do enough to pacify you....They do enough to quiet you down so you can stop ringing the phone (Womack, 1995).

Tom Fleming likewise observed little real progress: "They started spending money...[but] they didn't reach very many people in the spending program" (Fleming, 1995). From his viewpoint and that of many other residents, the major development was the creation of various administrative posts and the opportunity for community members to head up new organizations. In fact, some estimate that nearly $6 million of the $8.6 million spent in Hunters Point anti-poverty programs was devoted to program payroll.

Although neither new leaders, learning how to exert pressure on the City for funds or programs, nor outsiders had practical answers, some benefits were obtained:

> The employment efforts have gotten some individual people into jobs, but not as a Hunters Point group, as individuals. We [PIC] have spent a lot of federal money working with funding community agencies to help with the employment problem, and they have had some successes (Elton, 1995).

One of the most vivid successes came in the temporary employment of youth. Yet because federal monies subsidized those work programs, the youth did not gain private sector experience.

The riot brought a new breed of community organizer to leadership in Hunters Point. While their successes were few, a renewed sense of appreciation for the needs of the community inspired them to persist. To prevail in the face of the events that were to follow, that persistence would be essential.

The End of an Era

The Redevelopment Program

Aided by the leaders who arose in the late 1960s, the community of Hunters Point gained prominence in the city's quest for urban renewal. From the late 1960s through the 1970s, efforts were made to rebuild what had become one of the most depressed areas in San Francisco.

One of the most visible symbols of the need for redevelopment was the Hunters Point hill, then covered with hastily constructed, 25-year old housing. The poor housing stock stood in an area lacking in parks and recreation. To remedy this dismal situation, large sums of federal money and new job opportunities came into the district in the form of the Urban Renewal Program.

New construction did present opportunities for minority local employment. One of Pat Womack's jobs was to assure adequate minority representation in some of these efforts. Yet some job discrimination persisted. In early 1970, excitement over development funds was tempered by a recurring problem: One large firm hired to do much of the redevelopment work, while sporting Black bosses and employees, was White-owned (*San Francisco Chronicle,* 10 Apr. 1970). Jessie Banks recalls, "They didn't hire the Black people. They brought in their own crew and started using them." The workers were from "everywhere but Hunters Point" (Banks, 1995).

While Urban Renewal brought cosmetic changes, the situation at its core was not renewed. "[They] put new faces on these barracks, these projects....They look like apartments. But the same people, they moved them over to one side and then they moved them back in. (Perkins, 1995). On the other hand, Tom Fleming believes the biggest change wrought by the renewal effort throughout the city was simply relocation:

> We told them that we called it "urban removal" because none of those people came back here to live. They left from over here when they tore down old houses. None of them came back because they moved out of town, a lot of them moved out of San Francisco (Fleming, 1995).

The Navy Steps In

The Navy and the local shipyard played a role in the betterment of the community. Through their outreach efforts in the early `70s, the Navy orchestrated one of the more successful job training efforts at the time. From 1970 until the shipyard's closing, Karl Kimbrough acted as the community outreach organizer for the yard. One of his major goals was to find out "what the Navy could do for the kids in the summer when they were out of school" (Kimbrough, 1995). Toward that end, and in the hopes of training the youth for future positions in the industry, he helped to develop the Navy's Pre-Apprenticeship Program.

With the help of another employee named Frank Thompson, Kimbrough organized the recruited youth into various shipyard shops. They found summer employment for "girls who could work in the office [and] fellas who could work as assistants to the mechanics in the shops" (Kimbrough, 1995). By training them and offering valuable work experience, this program prepared youth for jobs in any shipyard. In their first year they "brought on about 75 youngsters from the community" (Kimbrough, 1995). At its apex in 1973, the program benefitted 119 young people. Don Brown praises Kimbrough's and the program's efforts: "The program turned out a tremendous number of very, very good employees who knew their trade well because they were trained by the old timers" (Brown, 1995).

The Pre-Apprenticeship Program was interracial and engaged youth from all over the city. An even more focused attempt to benefit the Hunters Point community specifically was accomplished by outreach. This came through Kimbrough's association with the Hunters Point Boys and Girls Club. The clubs were given a donated spot on the hill and a building from which to operate. Kimbrough, one of the Board of Directors of the Club, also saw that they received funding donations. For recreation, they took some of the children out on the Navy's tugboats for weekend rides on the Bay. A close relationship again had developed between the shipyard and the youth of the community.

The Hunters Point young people were not the only ones who benefitted from these efforts. Much was done for adult clubs as well. Kimbrough brought together a diverse collection of church and community social groups for a meeting at the shipyard to "talk about the things they'd like to do," to find out how the Navy could help fulfill their needs (Kimbrough, 1995). He discovered that their main problem was that "they couldn't get out of the community because they didn't have transportation" (Kimbrough, 1995). He arranged for the Navy to provide transportation to various recreational sites in the Bay Area.

In the early part of that decade, after the awareness that grew from the `60s, the shipyard began to exert as vital a role in the community as it had during the war years. "It turned out to be a very successful thing for the community and the shipyard" (Kimbrough, 1995). Unfortunately, the harsh realities of base closure in 1974 ended any hopes of an expanded effort.

The Yard Closes

The closing of the yard meant a loss of employment for 5,060 workers. In an effort to counter this loss, the Navy coordinated a replacement program. The goal was either to find other government opportunities for the skilled craftsmen or to allow them the option of retirement. For those involved, it was primarily a success. "We found jobs for all the workers down to 136" (Kimbrough, 1995). Even if this meant relocating to one of the operating bases in Southern California or Washington State, for those workers it also meant a continuation of employment utilizing their skills.

Some of the local employees, however, chose not to relocate to other bases. They joined the growing ranks of the unemployed in Hunters Point (Brown, 1995). Many also chose to take early retirement, for which many were not financially prepared: "When they closed the shipyard down, a lot of them retired early. They didn't have no money. But if they could have worked on out and had something when they retired, then I think it would have made a difference" (Banks, 1995). The transition was most difficult among the African Americans in Hunters Point and throughout the San Francisco community, half of whom had been employed by the shipyards or government (Broussard, p. 150).

The closing of the shipyard had a much wider impact than the mere loss of a hundred or so jobs. With the closing came the closing of businesses all over the area: "When you start winding down a large facility like Hunters Point Naval Shipyard, it's definitely going to affect business....It's only natural for them to wind down too" (Kimbrough, 1995). Businesses began shutting down as the flow of consumers into already limited commercial zones dried up even further. Espanola Jackson states, "The community died when the shipyard left. There was nothing. Everything that was here disappeared." She describes going-out-of-business sales along the Third Street corridor where goods were being sold at ridiculously low prices. During one store's desperate attempt to close, she purchased a bedroom set for five dollars (Jackson, 1995).

The closure of the Naval Shipyard posed yet another economic hardship for the community. "There was nothing to support business in [Hunters Point, and now] there's not a lot of business to support the population" (Arcelona, 1995). Carol Tatum states that the effects of the closure went deep in the life of the entire Hunters Point community: "[I]t has left a void in my life. The absence of employment opportunity and the impact that that has on the community affects everybody in it and associated with it" (Tatum, 1995).

Depression at the Point

The Yard Transforms Again

The closing of the Naval Shipyard did not mean an end to operations altogether. A company called Triple A leased the property from the Navy between 1975 and 1985. Triple A's contribution to local employment and community activities was limited in comparison to what the Navy's had been: "There just was not the volume of jobs anymore" (Brown, 1995). Furthermore, the jobs that did exist on the yard were no longer filled by locals. "There was no concern at that time with the effort to hire locally" (Brown, 1995). The real opportunities for the community represented by the shipyard existed no longer.

Found guilty of "environmental infractions" and fined for their abuses, Triple A left the shipyard in 1985. The community was then even left out of the efforts to clean up its neighborhood. Jessie Banks recalls,

> They say we're going to have jobs out there for years, work out there, cleaning it up. But when it came to hiring they said, "No, they can't work out here because they're not trained, it will kill them." So that meant Black people didn't have anything to do. It was all right for [local people] to stand and watch these big trucks haul this stuff out, but they couldn't use them. It was all right for people [to have] their windows open for it to blow into the house, but they couldn't work. So [the companies] brought in people from everywhere else but Hunters Point (Banks, 1995).

In the years following the Triple A operation, the yard did resume some of its activity on a temporary basis. In this period, both the USS Enterprise and the Carl Vincent were serviced in the dry docks. Members of the community benefitted from this. In a community well aware of the historical problems of shipyard employment, the Navy decided "that the effort will be made to hire locally" (Brown, 1995). In the last job the shipyard completed, more than 20 of the laborers were residents of the hill.

Eventually, the Navy leased out property to various tenants. Most notable is a collection of several hundred artists. They are, some claim, "the largest concentration of artists" in the country (Brown, 1995). Today, they and several other small firms represent the bulk of the yard's occupation.

In the continued effort among the locals to benefit from their local economy, the Aboriginal Black Man's Union, assisted by James Richards, has recently led the fight for fair representation. The successes of employing men from the hill have resulted in the coordination of an agreement with the Navy. The stipulation to hire locals is now written into the contract under which the Navy currently operates (Brown, 1995).

Beyond the Yard

In the Hunters Point community today, the situation does not seem much improved. "If you look at Hunters Point when I lived there, in the sixties, and you [ask if] the plight of the people changed for the better because of the leadership, the money, the programs...if you look at it now it's even worse. It's absolutely worse" (Perkins, 1995). A resident and activist for the last 20 years, Betsy Blom-Stalinger concludes, "The social quality of our lives in the Bayview-Hunters Point area is more difficult than it ever has been" (Stalinger, 1995).

With the last 50 years of history behind them, the community fights for better treatment in many ways. Espanola Jackson, still active in many of these struggles, observes that they still share the realization "that we have to come together as a group and as people [and ask] 'Well, what about us? What has happened with us?'" (Jackson, 1995).

Conclusion

Hope and opportunity at Hunters Point have fluctuated throughout the years. "It was worse, started to get better, and now it [really] needs to get better" (Womack, 1995). Presently, a wide range of local organizations address the issues and concerns of thousands of residents. Crime, jobs, adequate housing, and many other concerns shared by other San Franciscans citywide occupy their time. Betsy Blom-Stalinger says the people are "demanding equality and demanding equal justice...to give people the same chance that all other people have had for years" (Stalinger, 1995).

Opinions on how to improve the situation are varied. Some see a beginning in revitalizing the shipyard. "I know we need that shipyard open" (Womack, 1995). This view rests on the belief that there are opportunities to be developed locally. Even if the results are not quickly forthcoming, shipyard revitalization will at least "give a sense that there is hope" (Arcelona, 1995). How this happens is just as important: "It has to happen from within. And we have to open up and be willing to share where we came from. For so long we've held back and suppressed [it], because that's not something nice to talk about" (King, 1995).

Whatever the future holds, the community is mindful of its history and anxious to remedy its problems. "There is a strong desire to say, 'You owe the community something.' Whoever goes in [to the shipyard] owes the community something" (Arcelona, 1995). This sentiment is shared: "I think the community as I have seen it feels that they should be able to control what goes on out there [at the shipyard]. They want to be able to make decisions as to the use of the space" (Elton, 1995). Yet skepticism created by past disappointment endures: "If Blacks are going to be [allowed to] participate in that...I don't know" (Fleming, 1995).

In the last 50 years, Hunters Point has weathered many storms. The residents have continually struggled for ideals of community. At its heart, Hunters Point is that -- a strong community. Pat Womack, who now lives in Oakland but remains connected and dedicated to the Hunters Point community declares, "I've always been in Hunters Point. I came to Hunters Point, I'll always be Hunters Point. When I go there I'm at home" (Womack, 1995).

Bibliography

INTERVIEWS

Arcelona, 1995: Interview with Steve Arcelona, Private Industry Council, by Tom Sandoval, Mason Tillman Associates. July 3, 1995.

Banks, 1995: Interview with Jessie Banks, by Dorothy Karvi, Mason Tillman Associates. July, 1995.

Branner, 1995: Interview with John Branner, by Dorothy Karvi, Mason Tillman Associates. July, 1995.

Brown, 1995: Interview with Don Brown, Hunters Point Naval Shipyard, by Tom Sandoval, Mason Tillman Associates. July 5, 1995.

Crooney, 1995: Interview with Ira Crooney, by Dorothy Karvi, Mason Tillman Associates. July, 1995

Elton, 1995: Interview with Eunice Elton, Private Industry Council, by Tom Sandoval, Mason Tillman Associates. June 27, 1995.

Flemming, 1995: Interview with Tom Flemming, *Sun Reporter*, by Tom Sandoval, Mason Tillman Associates. June 29, 1995.

Galante, 1995: Interview with Tom N. Galante, resident and banker, by Tom Sandoval, Mason Tillman Associates. July 11, 1995.

Jackson, 1995: Interview with Espanola Jackson, resident and activist, by Dorothy Karvi, Mason Tillman Associates. July, 1995.

Jordon, 1995: Interview with Sam Jordon, businessman, by Tom Sandoval, Mason Tillman Associates. June 30, 1995.

Kimbrough, 1995: Interview with Karl Kimbrough, yard employee, by Tom Sandoval, Mason Tillman Associates. July 3, 1995.

King, 1995: Interview with Lavone King, by Dorothy Karvi, Mason Tillman Associates. July, 1995.

Mixon, 1995: Interview with Omer Mixon, by Dorothy Karvi, Mason Tillman Associates. July, 1995.

Payne, 1995: Interview with Ruby Payne, local church member, by Tom Sandoval, Mason Tillman Associates. June 27, 1995.

Bibliography *(Continued)*

Perkins, 1995: Interview with Albert Perkins, former resident, by Tom Sandoval, Mason Tillman Associates. June 26, 1995.

Stalinger, 1995: Interview with Betsy Blom-Stalinger, resident and activist, by Tom Sandoval, Mason Tillman Associates. July 19, 1995.

Tatum, 1995: Interview with Carol Tatum, by Dorothy Karvi, Mason Tillman Associates. July, 1995.

Womack, 1995: Interview with Pat Womack, former resident, by Tom Sandoval, Mason Tillman Associates. June 29, 1995.

NEWSPRINT

S.F. Chronicle, various from 1939 to 1985.

New Bayview, various from 1989 to 1995.

ARCHIVAL

Jordon, Sam, position paper and flier for 1963 Mayoral race, San Francisco, CA, 1963.

Bayview Merchants Association, various advertisements for 1976 meetings, San Francisco, CA, 1976.

BOOKS

Broussard, Albert S., *Black San Francisco: The Struggle for Race Equality in the West, 1900-1954*. Lawrence, KS: University of Kansas, 1993.

Hippler, Arthur E., *Hunters Point: A Black Ghetto*. New York: Basic Books, 1974.

This page intentionally left blank